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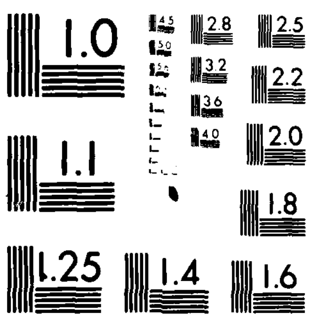

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MX SITING INVESTIGATION
WATER RESOURCES PROGRAM
OPERATIONAL BASE STUDIES REPORT

VOLUME II

MILFORD AND BERYL OPERATIONAL BASES
ESCALANTE VALLEY
UTAH

Prepared for:

U. S. Department of the Air Force
Ballistic Missile Office
Norton Air Force Base, California 92409

Prepared by:

Ertec Western, Inc.
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Long Beach, California 90807

28 May 1981

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FOREWORD

This report was prepared for the U.S. Department of the Air Force, Ballistic Missile Office (BMO), in compliance with Contract No. F04704-80-C-0006, CDRL Item 004A2. It represents the results of Ertec Western, Inc.'s (formerly Fugro National, Inc.) investigations of the water resources at three of the candidate Operational Base (OB) sites in the Utah and Nevada MX deployment area.

The report has been divided into two discrete volumes. Each volume discusses the hydrologic information which is pertinent to the valley in which the candidate OB sites are located and is summarized below.

- Volume I - Includes the results of Ertec's investigations of the water resources at the Coyote Spring OB site study area as of March 1981, the text providing evaluation of the water resources of the study area, and supporting data. Currently, additional studies are being conducted in the area of the Coyote Spring OB site and will be presented in FY 82.

- Volume II - Includes the results of Ertec's investigations of the water resources in the Escalante Valley where both the Beryl and Milford candidate OB sites are located, the text providing evaluation of the water resources of the valley, and supporting data. No further investigations of the water resources in the valley are presently planned.

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF INVESTIGATION

The purpose of this investigation is to evaluate the water resources in the Milford and Beryl candidate OB areas in Escalante Valley with respect to quantity and quality, to assess water availability, and to assess possible impacts from withdrawals or from changes in the points of withdrawal (Figure 1).

The general approach of this investigation was to update and expand the existing data base in the siting area through literature review, field reconnaissance, drilling and testing, and water-quality analysis and to analyze and evaluate that information. Those activities are summarized as follows:

Existing Data Collection and Review

- Existing publications and data contained in agency files relating to water availability, local water use, ground-water flow systems, and aquifer characteristics were collected and reviewed.

- State and federal officials and individuals knowledgeable about ground-water conditions in Utah were contacted.

Shallow Aquifer Reconnaissance

- Field studies were performed to identify water users, measure ground-water levels, collect ground-water samples for chemical analysis, measure spring and stream discharges, conduct aquifer tests of exisiting wells, and examine general hydrogeologic conditions. Specifically,

  - Ground-water levels were measured in 86 wells in order to construct potentiometric maps for identifying ground-water migration patterns and areas of recharge or discharge;

  - Ground-water samples were collected from 28 wells and springs for field and laboratory analyses to characterize the water quality and to assess its suitability for use in

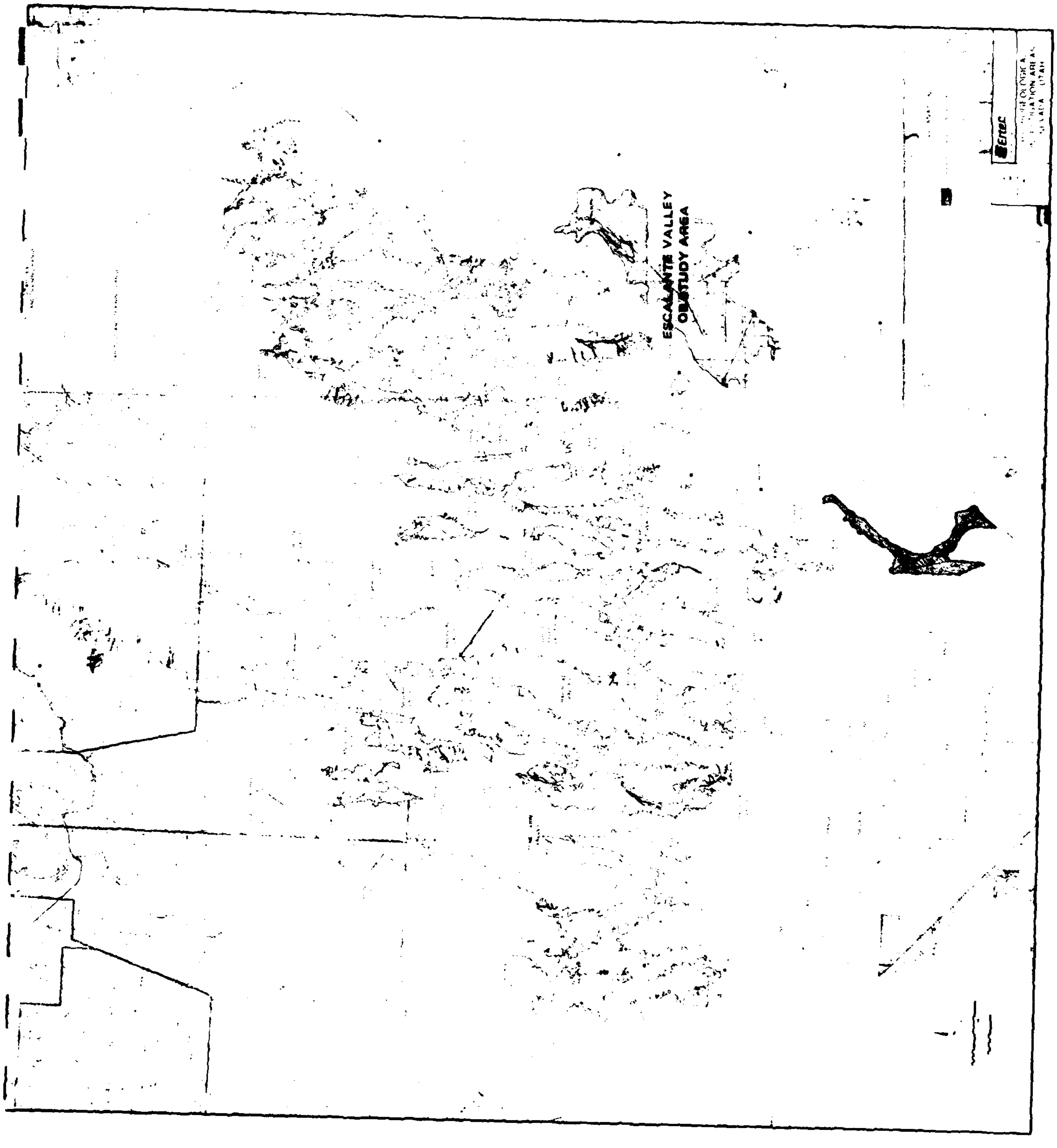


FIGURE 1

construction and for drinking purposes and to aid in identifying ground-water migration patterns and recharge areas; and

- Spring and stream discharge measurements were made at nine locations to aid in surface-water studies and to provide input to computer model simulations of the ground-water systems in the area.

Valley-Fill Aquifer Studies

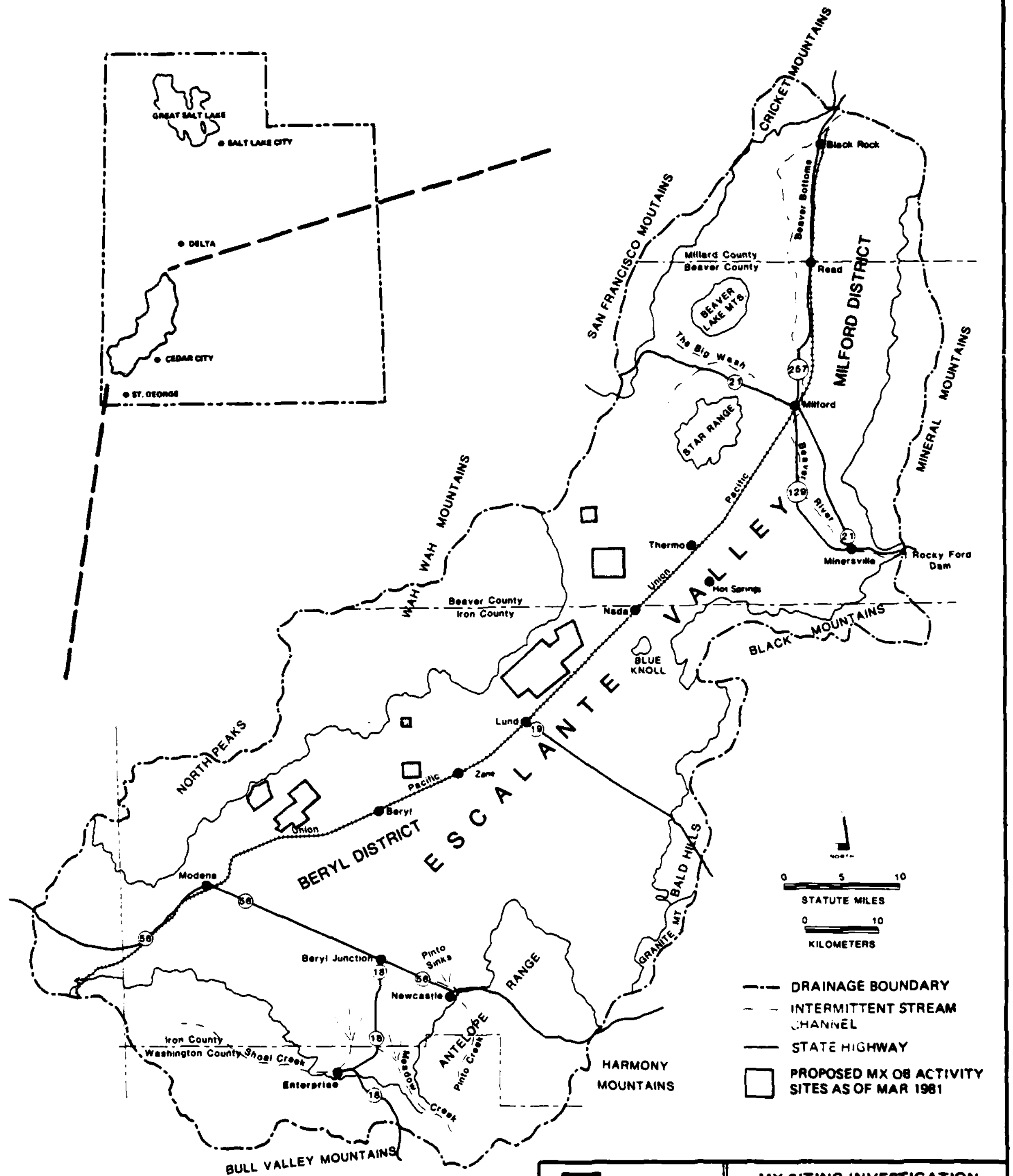
- An observation and test well were drilled at each candidate site into valley-fill deposits. The drilling and testing programs are designed to gather information about aquifer characteristics, the ability of the aquifer to store and transmit water, and about ground-water flow systems where little data exist. The aquifer test data were needed to determine the effects of pumping on nearby wells and springs in support of applications for changes in points of diversion and to determine if ground water could be physically obtained locally.

Surface-Water Overview

- The surface-water regime was investigated to provide data on the availability of surface water and estimate the rates and amounts of potential recharge to the ground-water systems.

1.2 LOCATION

The study area is located in southwestern Utah and encompasses the entire Escalante Valley and surrounding drainage area (Figure 2). Escalante Valley is located in parts of Beaver, Iron, Millard, and Washington counties. The study area is approximately 100 miles (161 km) long and varies in width from approximately 50 miles (80 km) in the southern portion to 30 miles (48 km) in the northern portion. For this report, the technical discussion of the valley has been divided into two districts, Beryl and Milford. The division between the Milford district in the north and the Beryl district in the south has been arbitrarily defined as an imaginary line 3 miles (5 km) south of and parallel to the Beaver-Iron county line.



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LOCATION MAP – ESCALANTE VALLEY, UTAH

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FIGURE 2

The Beryl district includes that portion of Escalante Valley that lies south and west of the Blue Knoll area (Figure 2). Communities within this district include Enterprise, Newcastle, Beryl, and Modena. The Union Pacific Railroad line traverses the entire valley from Modena northeast through Beryl, Lund, the Milford district and north through the town of Black Rock, a total distance of approximately 100 miles (161 km). Utah State Highway 56 extends from Cedar City, east of the district, to the Nevada State Line, west of the district. Most agricultural development in the district occurs in the vicinity of this state highway.

The Milford district includes that portion of Escalante Valley that extends from the Blue Knoll area north to Black Rock. Communities in the Milford district include Minersville, Milford, and Black Rock. Besides the Union Pacific Railroad line, the area is traversed by Utah State Highways 129 and 257 to the north and State Highway 21 from southeast to northwest. Agricultural development is present near Minersville at the entrance of the Beaver River into the valley and from the vicinity of Milford south and southeast for a distance of about 10 miles (16 km) along State Highways 129 and 21.

The proposed locations of the Operational Base locations are shown on Figure 2. The Milford OB site lies approximately 17 miles (27 km) southwest of the town of Milford. The Beryl OB site is located approximately 6 miles (10 km) west of Beryl Junction.

1.3 PREVIOUS INVESTIGATIONS

The Escalante Valley has been the subject of various hydrologic studies since the 1920s due to the importance of the valley as an agricultural and mining area. A study conducted by White in 1923 focused mainly on the use of ground water by native plants in the valley (White, 1932). Hydrologic monitoring of the valley by state and federal agencies has continued since 1935. In 1950, the U. S. Geological Survey (USGS) conducted a study to assess the ground-water resources in Escalante Valley. The study was initiated in response to the rapid increase in ground-water withdrawals that occurred during the 1940s (Fix and others, 1950). Progress reports on the status and effect of irrigated agriculture in the valley were published in the 1950s by the state in cooperation with the USGS (Thomas and others 1952; and Waite and others 1954). In the early 1960s, the USGS again conducted an investigation of this basin and adjacent ground-water basins in order to correlate past studies of the developed basins in southwestern Utah and to provide a unified concept of the ground-water conditions (Sandberg, 1966).

The change of ground-water levels in the valley has been evaluated annually since 1963 by the USGS and the results published in cooperation with the State of Utah in a series of reports titled "Developing a State Water Plan." These reports are published annually each spring and describe the current ground-water conditions and related hydrologic factors that may have

had an effect on the ground-water reservoir during the preceding year.

More recent studies of the Escalante Valley have been conducted by the USGS to assess the impacts of heavy withdrawals on the ground-water basin and to project future water-level conditions in the area. The Milford district was studied in the early 1970s by Mower and Cordova (1974). Field studies of the Beryl district have been recently completed but, as of May 1981, only the basic data have been published (Mower, 1981); the interpretive report is still in preparation.

2.0 RESULTS AND CONCLUSIONS

Escalante Valley has been identified as a candidate site for either a primary or secondary Operational Base. Because existing use of water resources in the valley exceed the estimated annual rate of replenishment, the Utah State Engineer has declared this area closed to further appropriations. In order to identify a water-supply source for MX requirements an investigation was performed to evaluate the water resources of Escalante Valley. The following is a summary of the results and conclusions obtained from the investigation.

Based on field reconnaissance conducted by Ertec and a review of existing data, it is concluded that surface-water resources in Escalante Valley have a limited potential for development as an MX water supply source. The four major surface-water sources, Shoal, Meadow and Pinto creeks and the Beaver River, are fully appropriated for beneficial use within the valley. All other springs or streams are also fully appropriated and do not flow in sufficient quantities to be considered a dependable water supply for MX.

In order to obtain a water supply for MX requirements from surface-water sources, it would be necessary to lease or purchase existing water rights from present users. Because the major surface-water supplies occur on the east side of the valley, it would also be necessary to construct extensive pipelines to transport water to the west side of the valley where the candidate OB sites are located.

In order to identify the potential for development of the valley-fill aquifer in Escalante Valley, field activities as well as a review of existing data have been conducted. The field activities included the drilling of two test and two observation wells, aquifer testing, ground-water level measurements, spring- and stream-discharge measurements and water-quality sampling and analyses. A preliminary numerical analysis of the ground-water reservoir was also performed as part of the investigation.

The valley-fill aquifer at both of the proposed locations in the Milford and Beryl districts is capable of delivering water in sufficient quantities and of acceptable quality to meet MX operational base requirements. Because the state engineer will not allow new appropriations in the valley, it will be necessary to lease or purchase existing water rights from present users. To meet peak construction water requirements for a secondary OB base of 4198 acre-ft/yr (5.2 hm^3/yr), it will be necessary to temporarily retire approximately 1680 acres (680 ha) of irrigated land from present use. To meet peak construction water demands for a primary OB base of 9685 acre-ft/yr (11.9 hm^3/yr), approximately 3874 acres (1568 ha) of irrigated land would be temporarily retired from present use. These acreage retirement amounts would decrease to 1160 acres (470 ha) and 1680 acres (680 ha) for secondary and primary site long-term operational use, respectively.

Numerical analysis of a well field at each candidate OB site in the valley was performed using a computer simulation of six wells withdrawing ground-water at a total rate of 2900 acre-ft/yr (3.6 hm^3/yr) and 4200 acre-ft/yr (5.2 hm^3/yr) for 30 years. These withdrawal amounts are the latest estimates provided by the U.S. Army Corps of Engineers for secondary and primary operational base water-use. For a secondary OB site in Beryl, a water-level drawdown of less than 1 foot (0.3 m) was obtained at a 6-mile (10-km) radius of the well field after 30 years. In Milford, a drawdown of less than 1 foot (0.3 m) occurred at an 8-mile (13-km) and radius from the simulated well fields. For a primary OB site, 1 foot (0.3 m) of drawdown occurred at an 8- and 10-mile (13- and 16-km) radius from the Beryl and Milford simulated well fields, respectively.

There is no evidence of a productive carbonate aquifer system in Escalante Valley. Development of such a system to provide a water supply for MX requirements is not considered a viable alternative.

Chemical-quality analyses of water samples collected throughout the valley indicate the water is acceptable for domestic consumption and meets recommended water-quality criteria for construction water use at the candidate OB sites. With the exception of ground-water samples from an area near the town of Milford and a few isolated samples scattered throughout the valley, the water quality is within state and federal primary and secondary drinking water standards. Most samples collected

met the criteria for mixing cement recommended by the Portland Cement Association (1966). Those samples that did not meet the criteria are from wells in areas of high agricultural activity several miles from the candidate OB sites. Water from one well sampled near the Beryl OB site had a TDS concentration that was 2000 mg/l, which is the recommended limit for mixing concrete. This well is located in an area of perched shallow ground water and may be affected by surface activity in the area.

Based on the results of these analyses, it is concluded that future development of water resources for public supply in the Milford district is feasible from a water-quality standpoint in areas south of Township 29 South and west of Range 11 West. In the Beryl district, future development is feasible throughout the area.

3.0 GEOGRAPHY

3.1 PHYSIOGRAPHY

The Escalante Valley, located in the Basin and Range Physiographic Province, is an irregularly shaped, southwest-northeast trending valley (Fenneman, 1931). The study area consists of a valley bounded almost completely by two series of roughly parallel mountain ranges and hills.

The valley floor is approximately 88 miles (142 km) long with a maximum width of 32 miles (51 km) and encompasses an area of approximately 1300 square miles (mi^2) (3366 km^2). The drainage basin tributary to the Escalante Valley is over 1500 mi^2 (3884 km^2). The valley floor has an elevation ranging from 4840 feet (1475 m) in the north near Black Rock to about 5500 feet (1676 m) in the south near Modena. The highest peak in the drainage area is Frisco Peak in the San Francisco Mountains which reaches an elevation of 9660 feet (2944 m).

In the Beryl district, the valley floor slopes northeastward with a gradient of less than 5 feet per mile (0.9 m/km) near Lund, 10 feet per mile (1.9 m/km) near Enterprise, and 25 feet per mile (4.7 m/km) near Modena. Shallow drainages and sand dunes interrupt the generally smooth valley floor. Broad coalescing alluvial fans and piedmont slopes, characteristic of the intermontane desert basins of western Utah and the Great Basin (a section of the Basin and Range Physiographic Province), merge into the valley floor. Surficial materials consist of unconsolidated alluvial and eolean sediments. Next to the

mountain fronts, these deposits consist of poorly sorted sand, gravel, and boulders. The sediments generally grade to fine sands and clays toward the valley axis. There are areas along the valley axis where thick beds of coarse gravel occur. One area of this occurence is just south of Milford. Runoff from the adjacent mountains rapidly infiltrates into these fan deposits where it serves to recharge the ground-water reservoir.

In the Milford district, a broad alluvial fan associated with the Beaver River extends from the south flank of the Mineral Mountain Range northwestward approximately 12 miles (19 km). Between Minersville and Milford, the alluvial fan slopes northwest at a gradient of about 13 feet per mile (2.5 m/km). At the apex of the fan, near Minersville, the gradient is 30 feet per mile (5.7 m/km), while at Milford, the slope decreases to about 10 feet per mile (1.9 m/km). The Beaver River enters the valley at an elevation of 5250 feet (1600 m) at the apex of the fan near Minersville and flows across the fan toward Milford where the elevation is 4950 feet (1509 m).

Broad coalescing alluvial fans also extend from the mountain ranges along the western border of the district. Surficial materials in the fans are similar to those that occur in the Beryl district. Poorly sorted unconsolidated sands, gravel, and boulders occur nearest the mountain fronts and generally grade into fine sands and clay toward the center of the valley.

3.2 CLIMATE

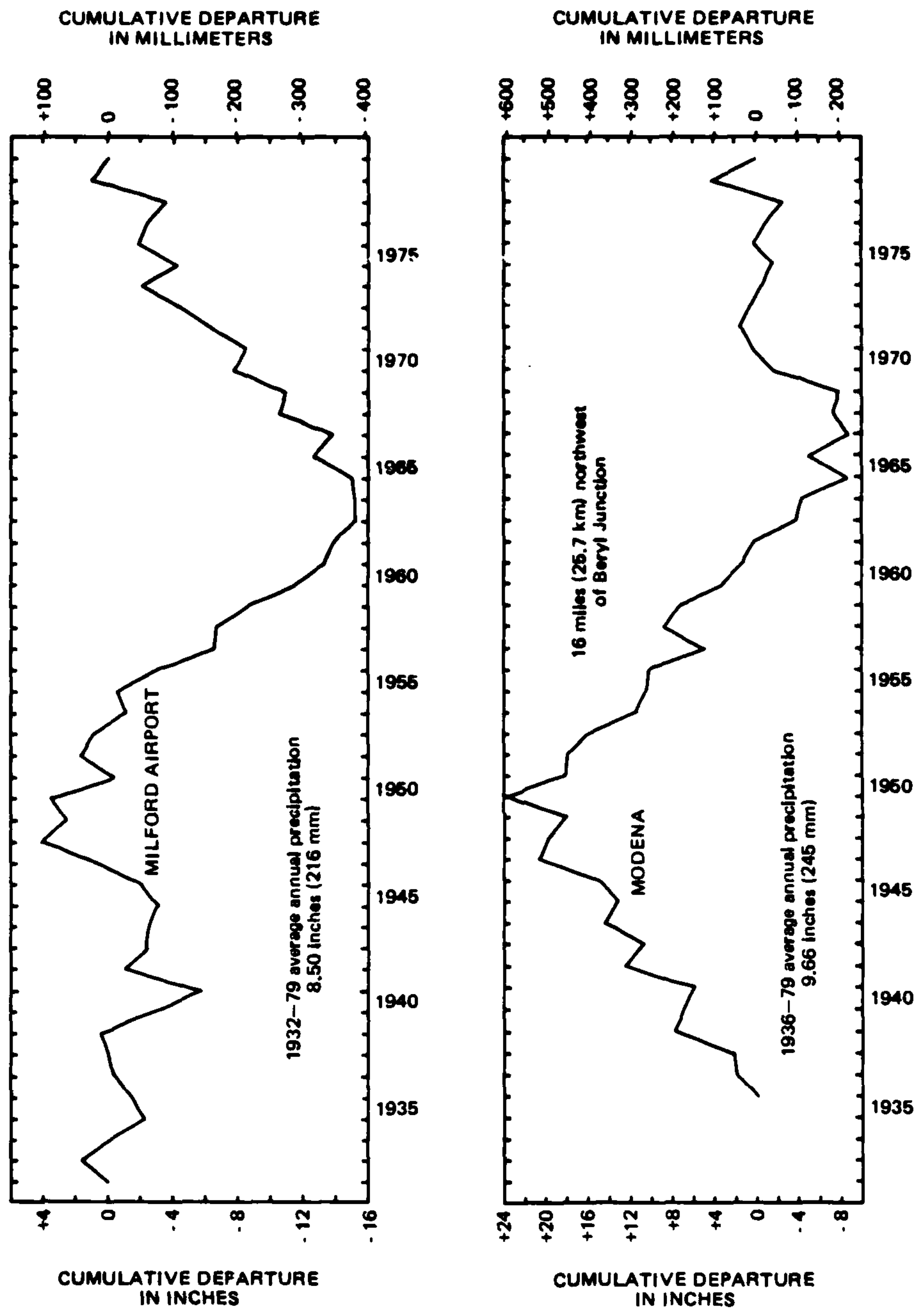
The climate of Escalante Valley is semiarid and is characterized by mild summers and cool winters. Daytime temperatures seldom exceed 100°F (38°C) in the summer. Winter temperatures are usually below freezing at night. Mean annual temperature for the area is about 50°F (10°C) (Sandberg, 1966). The average length of the growing season during the period from mid-May to late September ranges from 105 days near Black Rock to 138 days near Modena (USGS, 1950).

Annual precipitation averages from 8 to 11 inches (20 to 28 cm) in the valley to more than 25 inches (64 cm) in the mountains. More precipitation falls near the mountain fronts along the east side of the valley than on the western side. The average May to September precipitation on the valley floor is between 3 and 4 inches (8 and 10 cm). Rainless periods of 30 days or more are common and because of this low rainfall during the growing season, irrigation of croplands is required (Sandberg, 1966).

The cumulative departure from the average annual precipitation for the period 1932 to 1979 at the Milford airport and for the period 1936 to 1979 at Modena is shown in Figure 3 (USGS, 1980). The valley is presently experiencing a period of rainfall equal to the long-term mean.

3.3 VEGETATION

In the Escalante Valley, the natural vegetative associations are characteristic of a semiarid climate and, in some cases, are indicators of the depth to ground water. Valley slopes are



Source: U.S.G.S. 1980.

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FIGURE 3

covered largely by sagebrush, and the valley trough is covered by alkali-resistant phreatophytes. These phreatophytes, which are indicative of shallow ground water, include greasewood, shadscale, rabbitbrush, saltgrass, tussock grass, pickleweed, and seepweed.

Where the depth to water is less than 15 feet (4.6 m), saltgrass, greasewood, pickleweed, shadscale, and rabbitbrush associations are commonly found. Saltgrass is totally absent where the depth to water is greater than 15 feet (5 m). Greasewood is commonly found in areas where the depth to water is greater than 3 feet (1 m) and possibly as deep as 25 to 40 feet (8 to 12 m). Besides these shrubs and forbs, native grasses such as Indian rice, galeta, threeawn and squirreltail are also found throughout the valley (Ertec Northwest, 1980). These grasses generally obtain their water from near surface moisture that is derived from local precipitation and retained in the upper part of the soil mantel.

On the foothills and low mountain slopes, the dominant vegetation is junipers and scattered pinon along with blacksage, rabbitbrush, and shadscale. The higher peaks and ridges support yellow pine, spruce, fir, and scrub oak.

4.0 GENERAL GEOLOGY

4.1 GEOLOGIC SETTING

Geology in the Escalante Valley and the surrounding mountains is dominated by sedimentary and igneous rocks ranging in age from Precambrian to Quaternary and by unconsolidated sediments of Quaternary age. The unconsolidated deposits form the principal ground-water reservoir in the valley.

4.1.1 Regional Geology

Escalante Valley is a typical block-faulted valley of the Basin and Range Province with down-faulted blocks forming valleys and up-faulted blocks forming the mountains. The main ground-water reservoir is the valley-fill sediments which are the result of deposition of materials derived from the up-faulted mountain blocks. To the east of the valley, the Basin and Range structure changes abruptly to the nearly flat-lying structure of the Colorado Plateau.

4.1.2 Statigraphy

Stratigraphic sequences of rock ranging from Precambrian to Quaternary in age are found throughout the area. Rocks of upper Precambrian and lower Cambrian age are exposed in the Beaver Lake and San Francisco mountains and in a few outcrops in the Mineral Mountains. They are composed principally of quartzite with a few carbonate beds in the lower members. In the San Francisco Mountains, the strata of Precambrian age overlie rocks of Cambrian and Ordovician age as the result of major thrust

faulting. Limestones, dolomites, and clastic rocks of Cambrian age are found in these mountains.

Valley-fill deposits include sediments of Pleistocene (Bonneville and pre-Bonneville) and Holocene ages. Pleistocene deposits include alluvial fan and lake sediments. Holocene units include unconsolidated alluvial fan, stream-channel, and eolian deposits. Well logs in the valley indicate numerous sequences of sand, gravel, and boulders interfingered with clay and silt layers. It is in this valley-fill material that the main aquifer system occurs. The total thickness of the valley-fill in Escalante Valley is not known. However, available data show more than 3000 feet (914 m) of sediment in places, and in some areas, accumulations reach depths as great as 5000 feet (1524 m) (Sandberg, 1966).

4.2 STRUCTURAL GEOLOGY

Several faults, generally striking northeasterly, have been mapped in the region around Beryl and Milford. Several of these faults offset basin-fill deposits of late Quaternary age (less than 700,000 years old); in some cases, the faults also offset deposits of Lake Bonneville age (12,000 years old) or younger.

One of the more prominent northeasterly striking faults in the region is located west of Lund. The surface expression of this fault consists of a pronounced southeasterly facing scarp that averages approximately 27 feet (9 m) in height; in young alluvial deposits, the scarp is only about 1 foot (0.3 m) high.

This fault is fairly continuous from southeast of Zane to northwest of Lund, a distance of about 12 miles (19 km). This fault may continue to the northeast to join a similar fault near Section 33 of Township 31S, Range 14W. Approximately 3 miles (5 km) southeast of Zane, a smaller fault, with a northwest facing scarp, parallels the main fault at Lund.

In addition to the above, several northeasterly and east-west trending faults occur in the vicinity of Thermo and Hot Springs. In this area, aerial photographs show several scarps; hot springs emanate from two northerly striking faults within this system.

4.2.1 Landforms

The dominant landform of Escalante Valley is the lake bed of Lake Bonneville. This large Pleistocene lake extended into many of the Great Basin Valleys where it resulted in a generally smooth valley floor rimmed by scattered evidences of elevated shorelines. Merging into this valley floor and somewhat overlapping it are broad coalescing alluvial fans and piedmont slopes.

In the Escalante Valley, the generally smooth valley floor is interrupted in places by shallow channels cut by floods of short duration and by sand dunes that may be as much as 25 feet (8 m) high.

Sand dunes have developed at several locations in the valley. The largest area of dune development is at the north end of the

valley in Beaver Bottoms. These dunes have formed largely as the result of wind erosion of abandoned farm lands along the Beaver River. Interrupting the alluvial surface are occasional volcanic flows and knolls. These can be found in the area of Black Rock. Volcanic cones also form several knolls near the Black Mountains.

For the most part, the landforms only indirectly affect the surface waters of the area. The smooth ascending fans that originate from the mountains allow for the runoff of precipitation and do little to affect the ground water in the area. However, the presence of such features as volcanic flows and knolls may impede the flow of ground water and possibly act as damming features in some areas. The presence of dunes, on the other hand, may allow rapid recharge locally.

The old lake bed in the valley bottom consists of the finer sediments. Because of this, the deposits in the valley bottom tend to have a low hydraulic conductivity reflecting not only the fine-grained material present but also compaction of the material from previous episodes of ponding or flooding.

4.2.2 Drainage Basin Characteristics

The drainage area that contributes runoff and subsurface inflow to the Escalante Valley encompasses over 1500 mi^2 (3884 km^2) of mountainous terrain. Drawing 1 shows most of the limits of this drainage area.

Elevations in the surrounding drainage areas are usually less than 9000 feet (2743 m). The average elevation of the drainage

area is between 7500 to 8000 feet (2286 to 2438 m). In general, the drainage area to the east of Escalante Valley is higher and precipitation is greater. Mountainous areas to the south and west are generally lower and receive less precipitation.

Surface flows in the Beaver River originate in the Tushar Range to the east of Escalante Valley. This drainage area encompasses 535 mi^2 (1385 km^2). Elevations in this range reach 12,000 feet (3658 m).

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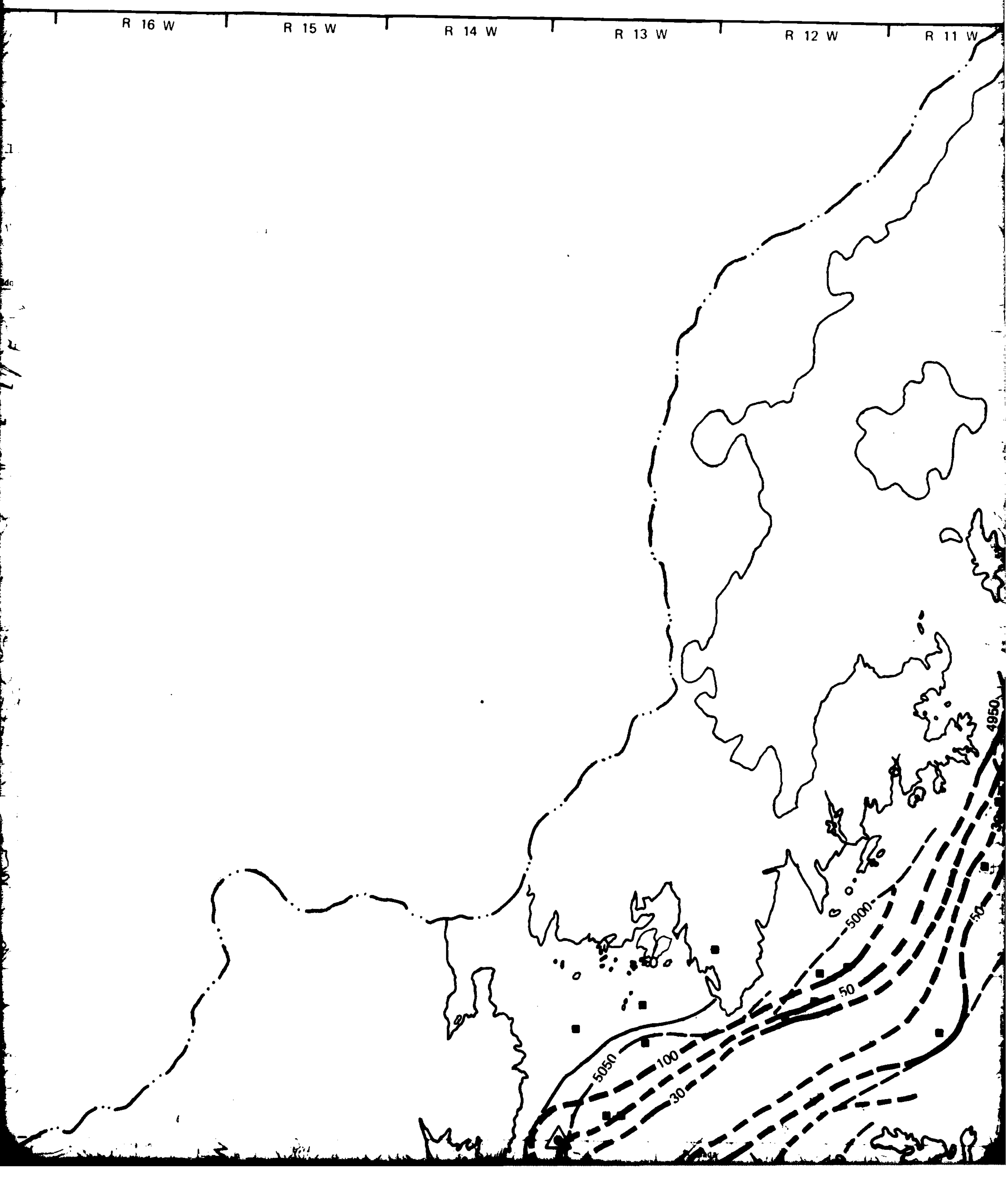
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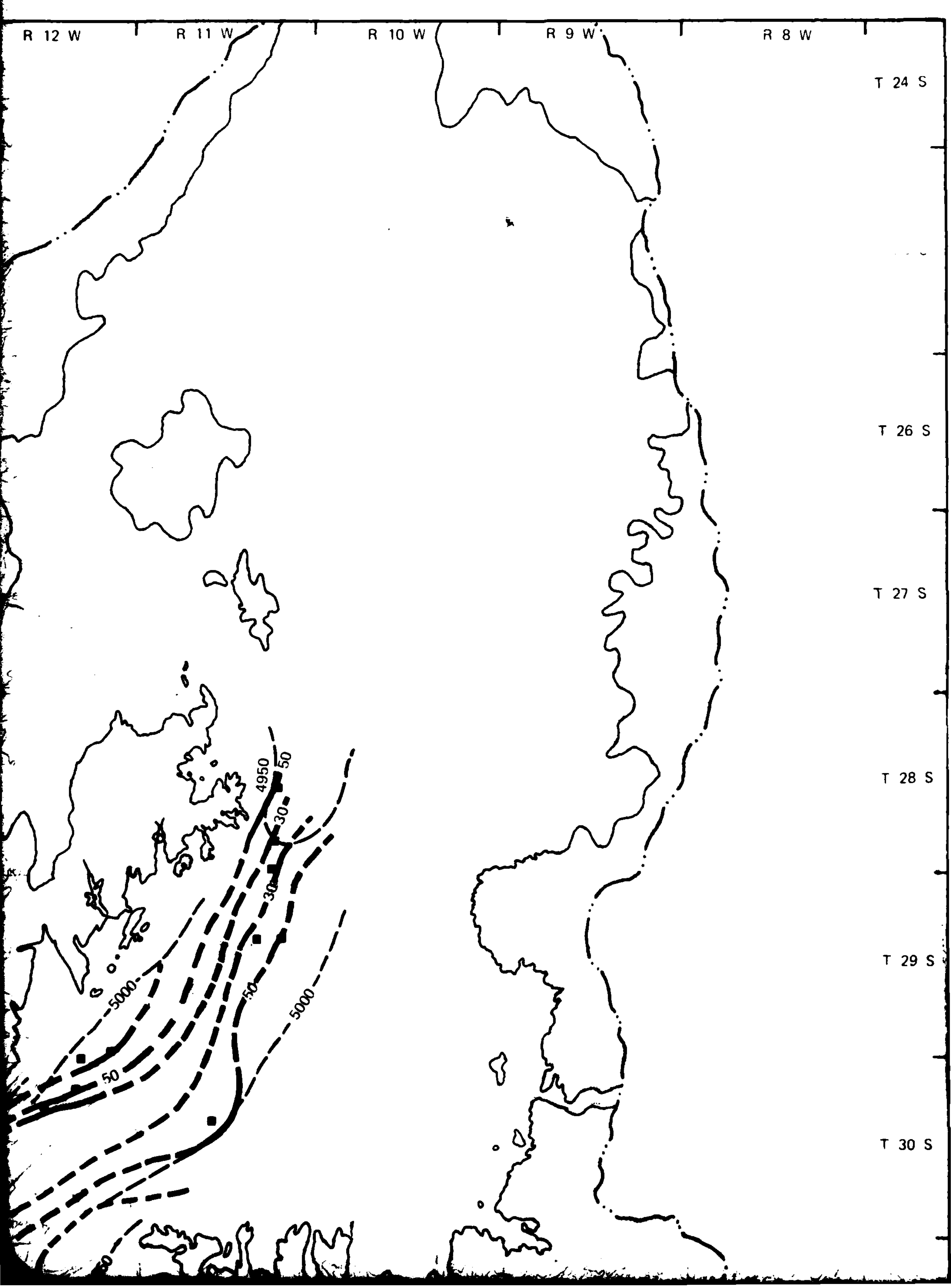
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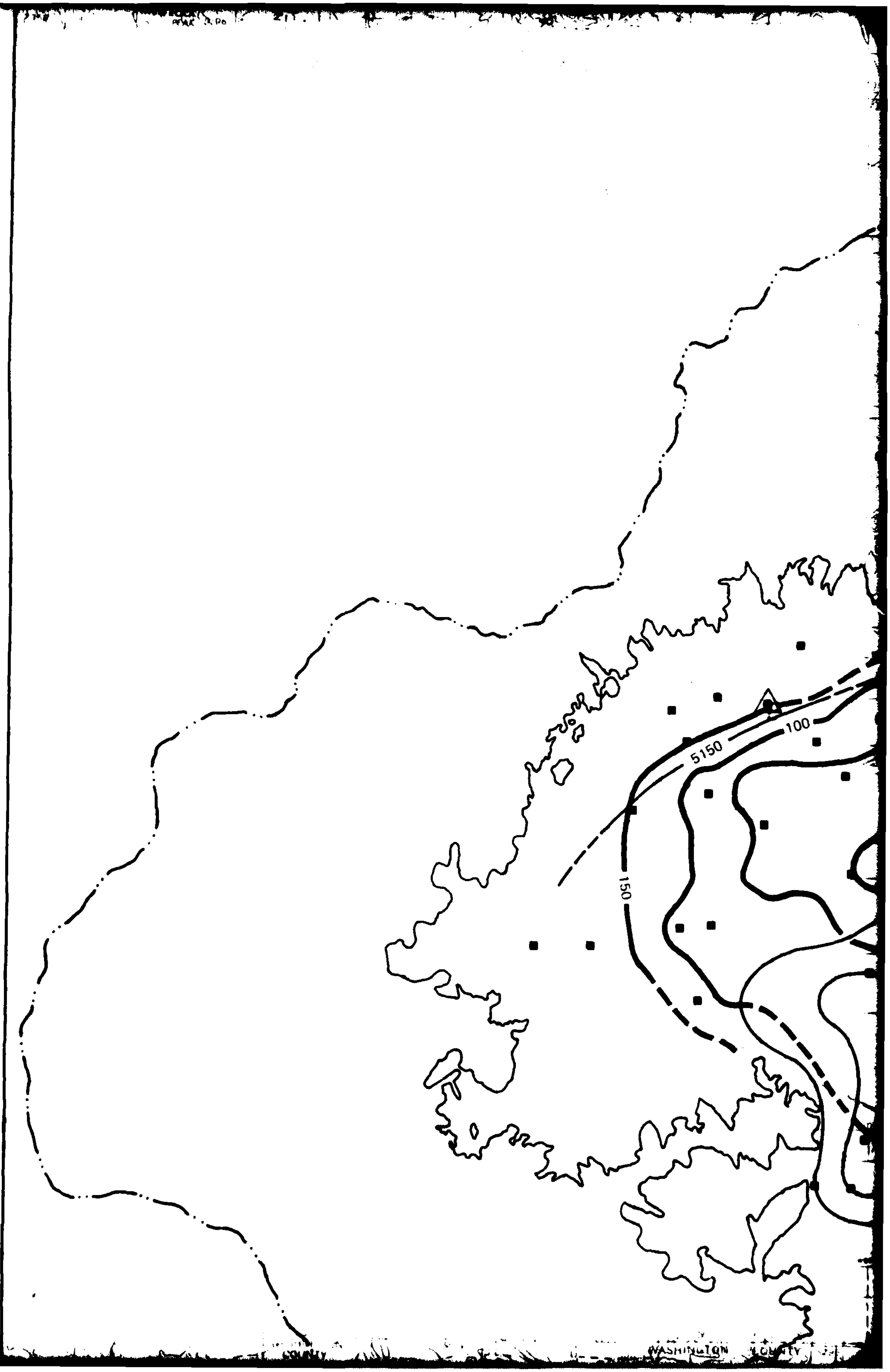
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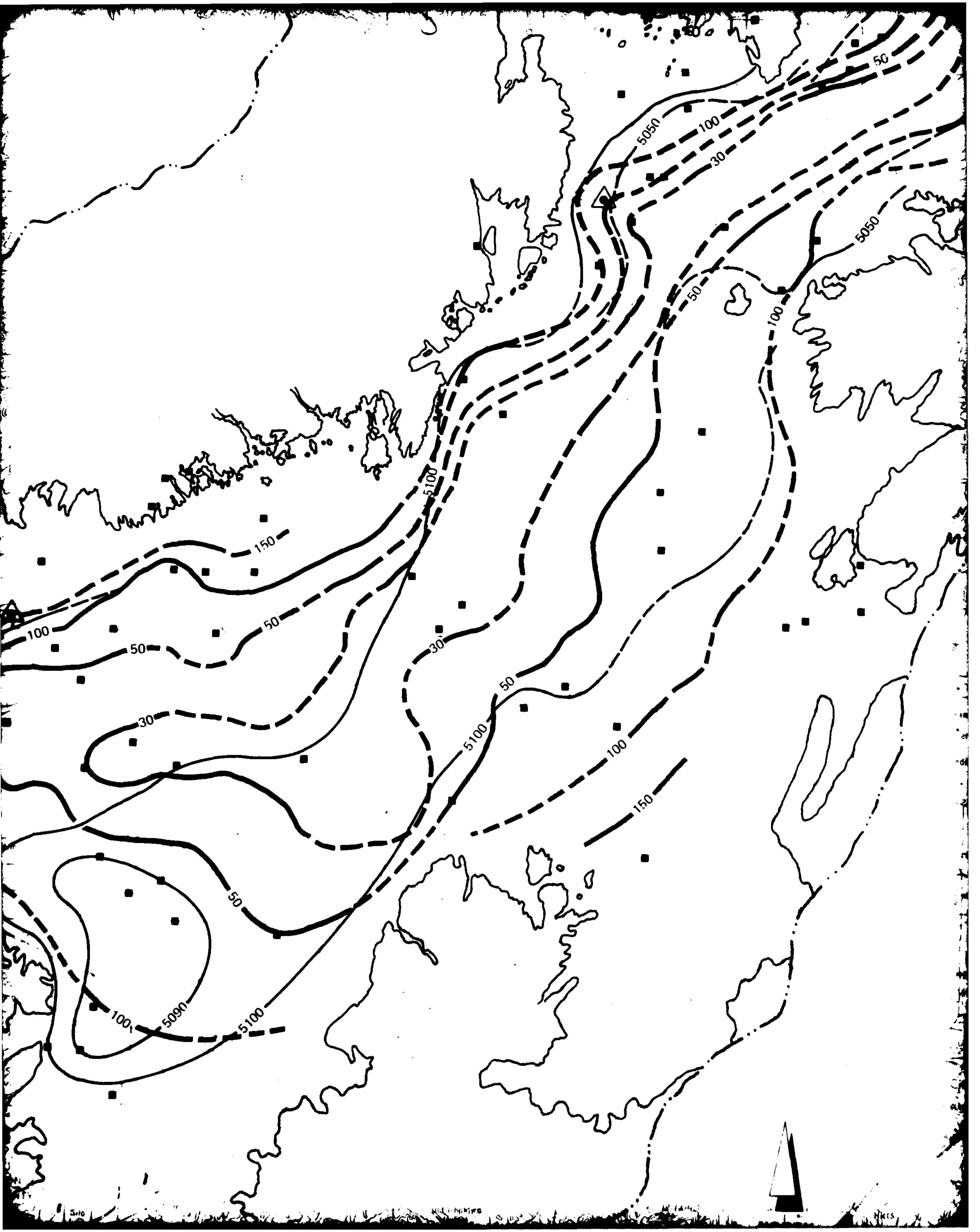
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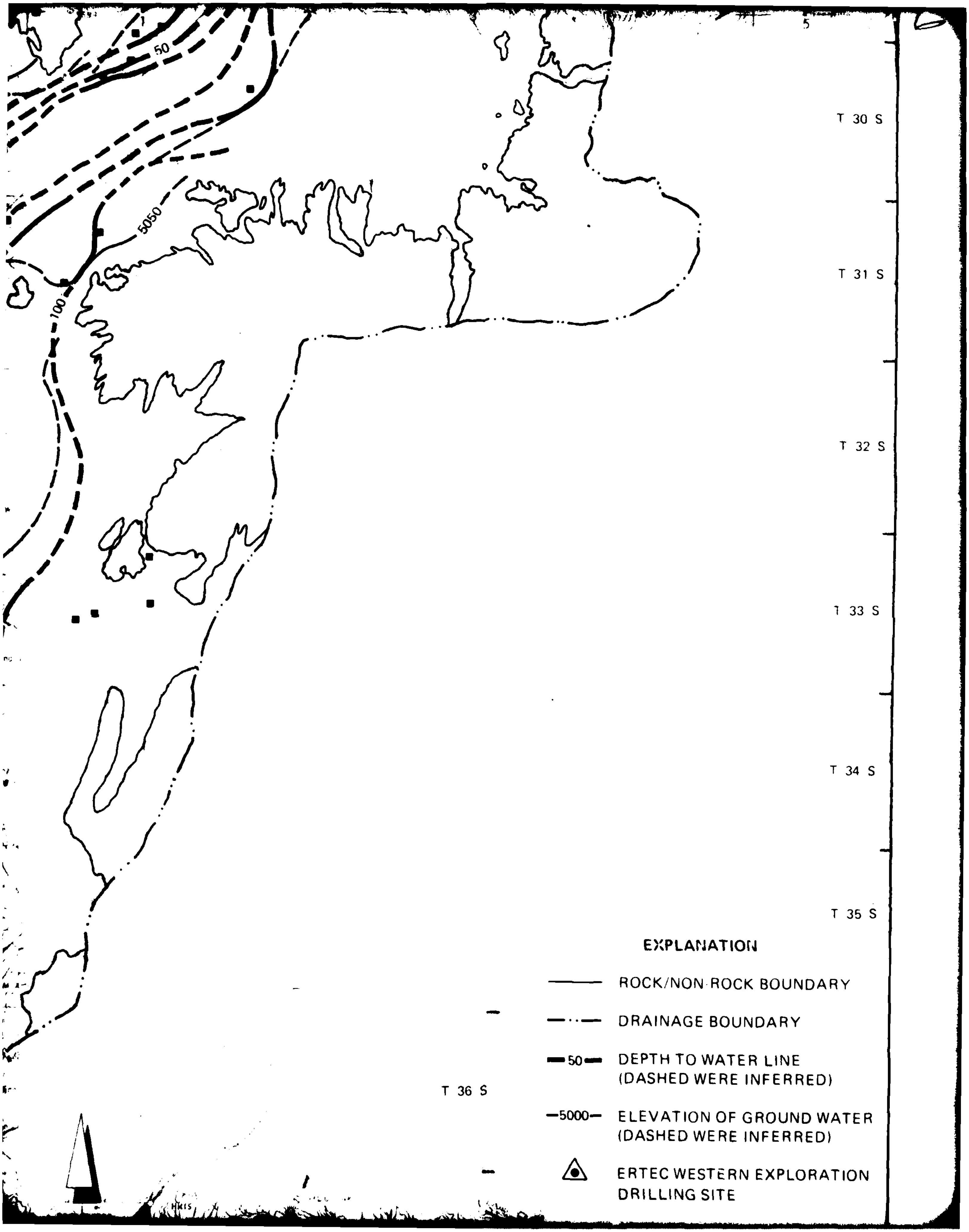

50
5050
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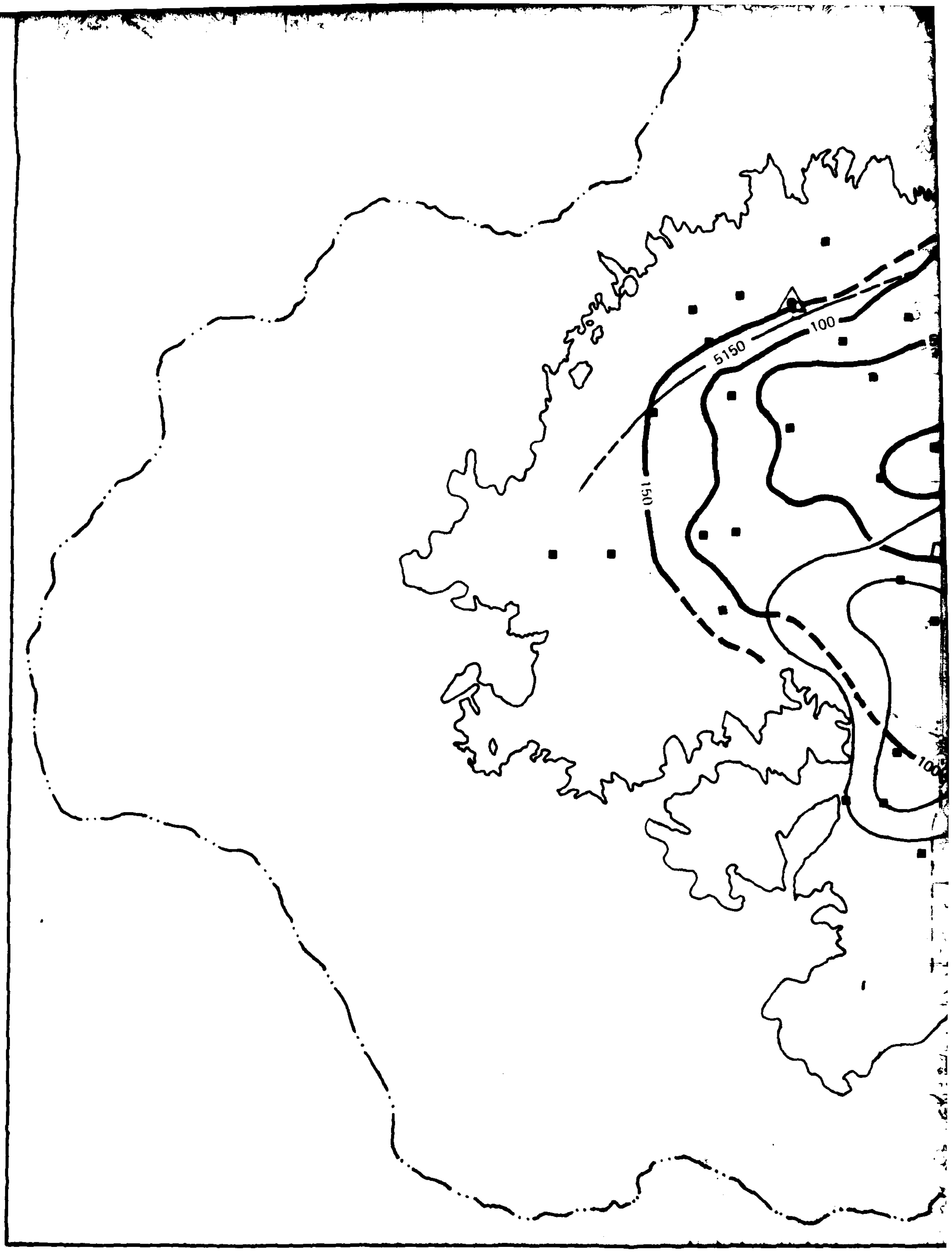
T 30 S
T 31 S
T 32 S
T 33 S
T 34 S
T 35 S
T 36 S
EXPLANATION
ROCK/NON-ROCK BOUNDARY
DRAINAGE BOUNDARY
50
DEPTH TO WATER LINE (DASHED WERE INFERRED)
5000
ELEVATION OF GROUND WATER (DASHED WERE INFERRED)
ERTEC WESTERN EXPLORATION DRILLING SITE



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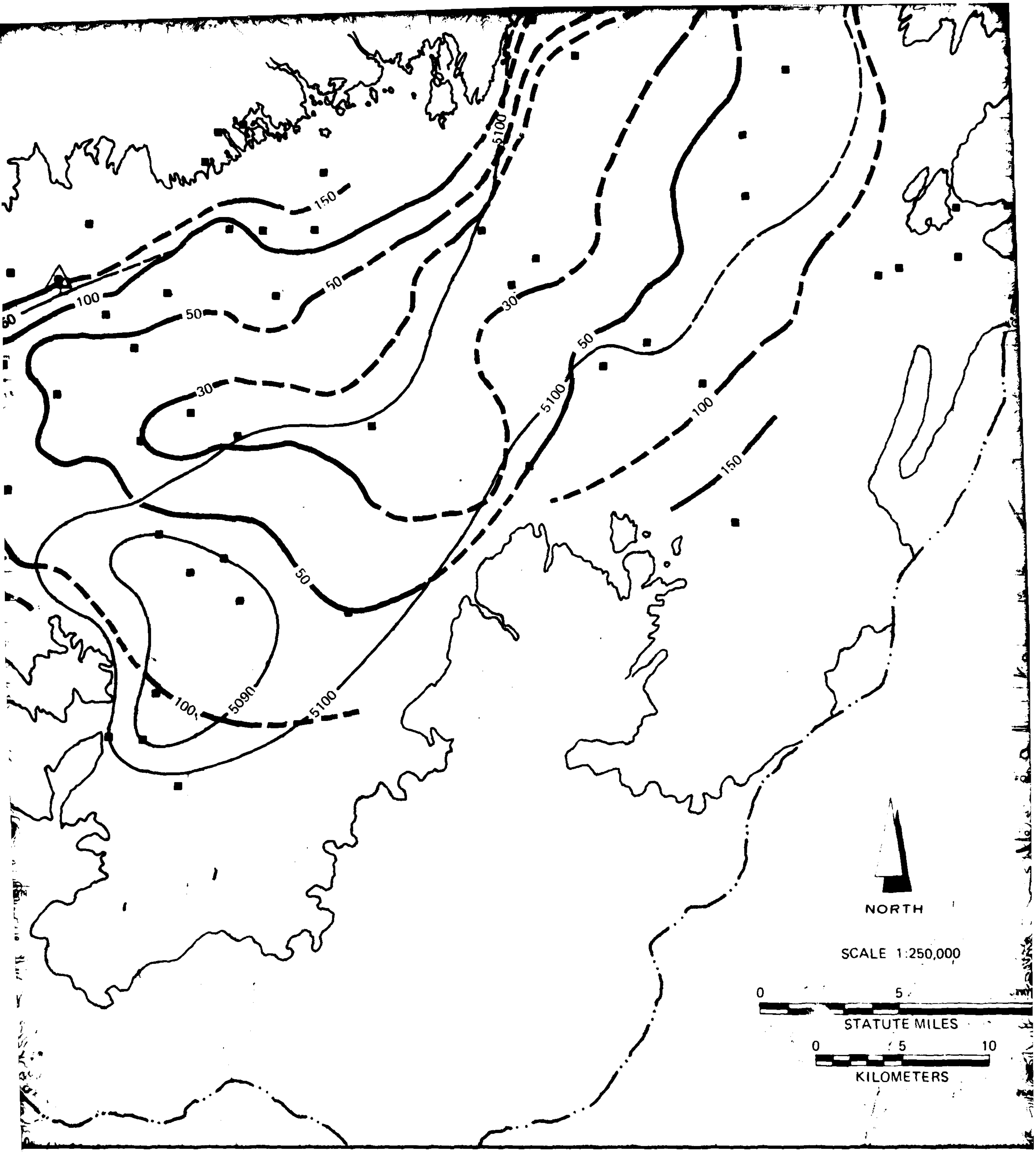

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NORTH
SCALE 1:250,000
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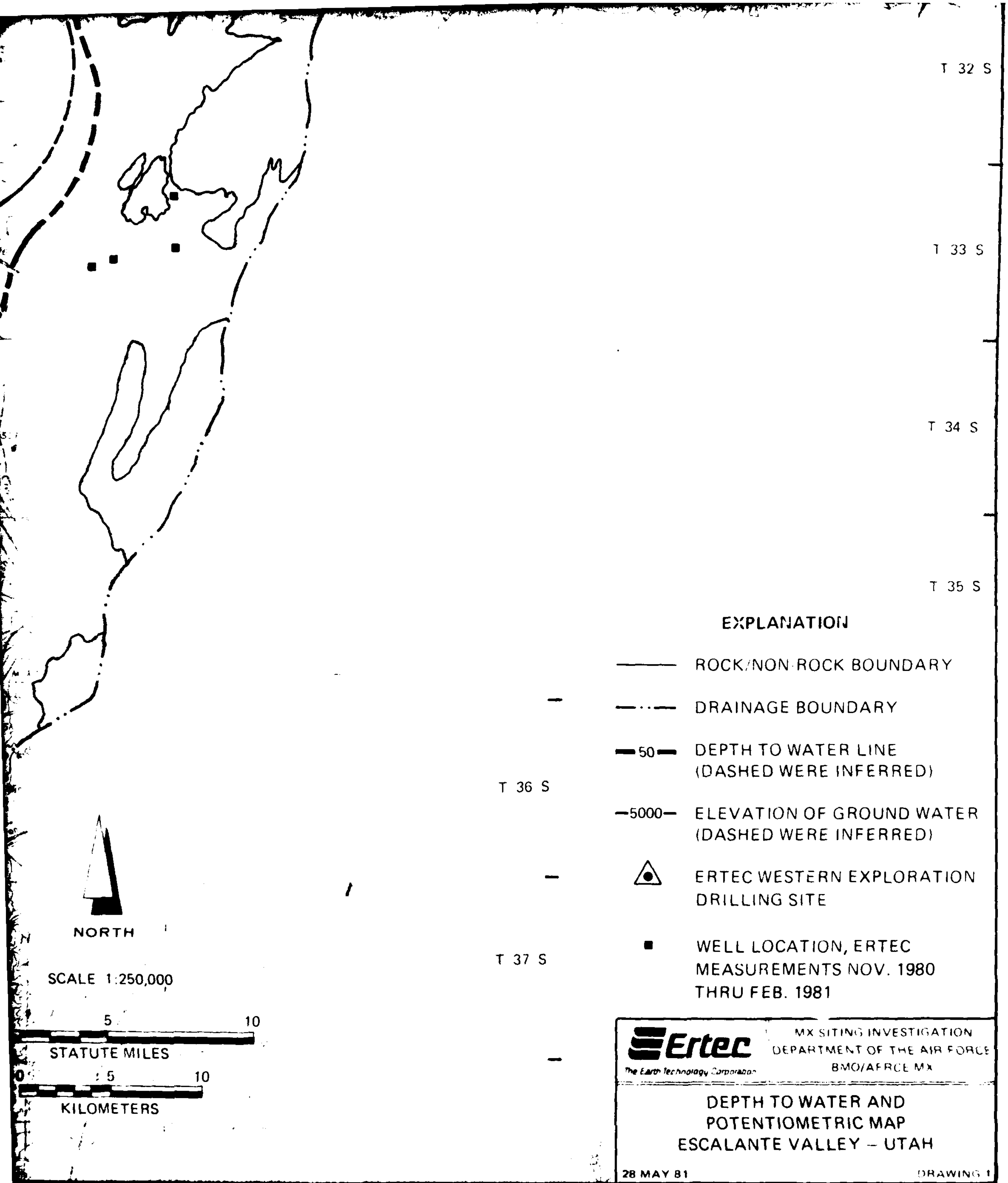
5
STATUTE MILES
0
5
10
KILOMETERS

8


T 32 S
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EXPLANATION
ROCK/NON-ROCK BOUNDARY
DRAINAGE BOUNDARY
50
DEPTH TO WATER LINE (DASHED WERE INFERRED)
5000
ELEVATION OF GROUND WATER (DASHED WERE INFERRED)
ERTEC WESTERN EXPLORATION DRILLING SITE
WELL LOCATION, ERTEC MEASUREMENTS NOV. 1980 THRU FEB. 1981
NORTH
SCALE 1:250,000
0 5 10
STATUTE MILES
0 5 10
KILOMETERS
Ertec
The Earth Technology Corporation
MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX
DEPTH TO WATER AND POTENTIOMETRIC MAP
ESCALANTE VALLEY – UTAH
28 MAY 81
DRAWING 1

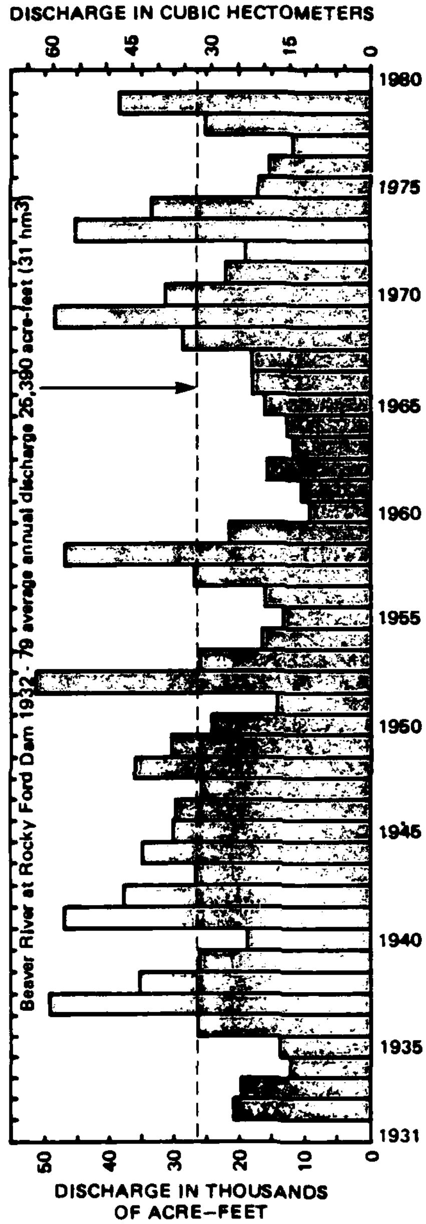
5.0 SURFACE-WATER HYDROLOGY

5.1 SURFACE-WATER REGIME

A close relationship exists between surface water and ground water in the Escalante Valley. In the Milford district, the ground-water reservoir is replenished to a large extent by water lost from unlined canals and ditches where they traverse valley-fill deposits and from ephemeral streams originating in the surrounding mountains (Mower & Cordova, 1974). In the Beryl district, the ground-water reservoir is replenished largely by subsurface flow from bed rock in the mountains and from losses of surface flow from stream channels during spring snowmelt and during intense thunderstorms.

There are four perennial streams in the basin that provide surface water supplies to the Escalante Valley (Figure 2). These are Shoal Creek, Pinto Creek, and Meadow Creek in the Beryl district and Beaver River in the Milford district.

The Beaver River is the largest stream in the area. Prior to construction of Rocky Ford Dam in 1914, the river was perennial through the Milford district. The USGS maintains a gauging station at a point 0.5 mile (0.8 km) downstream from Rocky Ford Dam. The average annual flow for the period 1932 to 1979 was 25,390 acre-ft/yr (31.3 hm^3/yr) (USGS 1980). A maximum recorded annual flow of 55,600 acre-feet (68.6 hm^3) occurred in 1921. The minimum recorded annual flow was 9150 acre-feet (11.3 hm^3) in 1960 (Mower and Cordova, 1974). Figure 4 shows the annual flow in the Beaver River at Rocky Ford Dam for the period 1932 to 1979 (USGS, 1980).



Source: U.S.G.S. 1980.

Ertec
The Earth Technology Corporation

MX SITING INVESTIGATION
DEPARTMENT OF THE AIR FORCE
BMO/AFRCE-MX

FLOW OF BEAVER RIVER AT ROCKY FORD DAM - 1932 TO 1979

28 MAY 81

FIGURE 4

Shoal, Meadow, and Pinto creeks drain the Harmony and Bull Valley mountains and associated ranges. These streams supply water to three small areas near the mouth of each creek in the vicinity of Enterprise and Newcastle. No gauging stations have been constructed on these creeks; however, it is estimated that the combined normal base or low flows of Shoal, Pinto, and Meadow creeks range from 5 to 10 cubic feet per second (cfs) (0.1 to 0.3 m^3/s) annually (White, 1932). In addition to this amount, there are flood discharges following heavy rains and periods of rapid snowmelt.

All other streams entering Escalante Valley are ephemeral and flow only in response to heavy precipitation or during periods of active snowmelt. This water collects in ponds on the valley floor and a portion recharges the ground-water reservoir. The majority of this ponded water, however, is lost to evaporation.

5.2 SURFACE-WATER DEVELOPMENT

5.2.1 Present Development

Surface water in Shoal Creek, the largest stream entering the Beryl district, is used to irrigate land near Enterprise. Two reservoirs on Shoal Creek, constructed during the 1890s and early 1900s, provide seasonal storage of melt water from winter snow and occassional hold-over storage in years of high runoff. These reservoirs have a combined capacity of about 10,200 acre-feet (12.6 hm^3).

Flow in Pinto Creek is used to irrigate acreage in the Newcastle area. Winter flows and much of the flood water in Pinto Creek is stored in Newcastle Reservoir about 2 miles (3 km) southeast of Newcastle. Flood water in excess of the capacity of Newcastle Reservoir is a source of recharge to the ground-water reservoir in the area north of Newcastle. Meadow Creek flows are uncontrolled and are used for irrigation in the area between Newcastle and Enterprise.

The Beaver River is the only dependable source of surface water for irrigation in the Milford district and is an important source of ground-water recharge in the area. The normal flow of the river is diverted and used for irrigation in the upper part of Beaver Valley east of Escalante Valley. The winter stream flow, flood discharge, and return water from irrigation in Beaver Valley is stored in Minersville Reservoir which has a storage capacity of 23,260 acre-feet (28.7 hm^3). This water is released to fields in the Milford district during the irrigation season.

All of the flow of the Beaver River into the Escalante Valley is diverted westward into Minersville Canal and Utopia Ditch for irrigation in the vicinity of Minersville and northward into the Low Line Canal for use on land southeast of Milford. Rights to the first 10,000 acre-feet (12.3 hm^3) of Beaver River water are held by landowners of the fields southwest of Minersville. In years of low runoff, practically all the surface flow is diverted to that area. When Beaver River flow is more than 10,000

acre-feet (12.3 hm^3), water is diverted into the Low Line Canal which has a capacity to carry 16,000 acre-feet (19.7 hm^3) in an irrigation season (Thomas and others, 1952). In years when the maximum flow exceeds the diversions, the surplus flows down the natural channel of the Beaver River most of which recharges the aquifer in the Milford district. There have been occasional small flows in the Beaver River beyond the Milford area.

Prior to 1916, the Beaver River was the main source of water in the Milford district. Since then, irrigation wells began to provide a portion of the irrigation water. Since the early 1950s, ground-water pumping from large irrigation wells has supplemented surface-water supplies and presently (in 1981) serves as the principal water supply.

5.2.2 Appropriations

Although a complete listing of the certificates, proofs, permits, and applications filed in the Milford and Beryl districts is not available at this time, it is known that current water rights exceed the available surface-water supply for the area. There are 25 certificates and proofs in the Milford district for the appropriation of 30,720 acre-feet (37.9 hm^3) annually (DRI, 1980). In the Beryl district, the number or quantity of surface-water rights is not available; however, local water commissioners indicate that approximately 8000 acre-feet (10 hm^3) of surface water has been delivered annually to existing water-right owners in recent years.

6.0 GROUND-WATER HYDROLOGY

6.1 GROUND-WATER REGIME

The Escalante Valley has developed into one of the largest agricultural areas in the state of Utah because of its large ground-water reservoir. It is because of the development of ground-water resources over the last 40 years that the productivity, wealth, and population of Escalante Valley have increased so rapidly.

Ground water stored in the valley-fill totals several million acre-feet. This is many times the quantity pumped from wells annually. The extent to which the ground-water reservoir is replenished depends upon the precipitation in the drainage basin and the amount of precipitation that percolates downward through the soil zone. Current pumpage is in excess of the rate of annual replenishment and is slowly depleting the storage of the ground-water reservoir. Drawing 1 indicates the potentiometric water surface and depth to water of the valley-fill aquifer based on measurements obtained by Ertec in November and December 1980 and February 1981.

6.1.1 Occurrence and Movement

A large part of the valley-fill material which constitutes the ground-water reservoir is coarse-grained and easily transmits water. These permeable beds of uncemented gravel and coarse sand yield sufficient quantities of water to irrigation and other large-yielding wells. The cemented gravels and

sands and fine-grained sediments also found in the valley do yield a smaller quantity of water to wells to meet stock and domestic needs. The annual average withdrawals of water from the ground-water reservoir for the 10-year period, 1969 to 1978, is 60,000 acre-feet (74.0 hm^3) in the Milford district and 79,000 acre-feet (97 hm^3) in the Beryl district for a total of 139,000 acre-feet (171 .4 hm^3) (USGS 1980).

The natural surface outlet of the valley is at the north end near Black Rock. This was once the location of a strait connecting the Escalante Valley area with the main body of ancient Lake Bonneville. There has been no significant surface outflow from the valley since surface diversions for irrigation have diminished the flow in the Beaver River to such small amounts that the remainder evaporates or infiltrates before it reaches the northern boundary. Subsurface outflow through the area is negligible as most of the ground water is discharged by pumping or evapotranspiration before it reaches the northern boundary. Because of this lack of significant outflow, the Escalante Valley is considered a hydrologically closed basin.

The natural ground-water system in the Escalante Valley has been altered by heavy irrigation withdrawals. Potentiometric contours representing the ground-water surface prior to about 1960 indicate the general ground-water movement was inward toward the axis of the valley and northeastward toward the north end of the valley. With present irrigation demands on the ground-water reservoir, most of the water in the upper zones of

saturation is been intercepted and withdrawn. Ground-water movement is still toward the axis of the valley and northeastward, but the slope of the hydraulic gradient has decreased in the Milford district. In the Beryl district, the northward gradient was reversed beginning in about 1964. Movement of ground water in the southern half of the Beryl district is inward toward the heavy pumping area near Beryl Junction.

Recharge to the ground-water reservoir is approximately 99,400 acre-ft/yr (122.6 hm^3/yr) and is from several sources as shown in Table 1 (see page 41). In the Beryl district, nearly all recharge originates from precipitation occurring in the district or on the surrounding drainage area. However, in the Milford district, some recharge is from water originating outside the area to the east in the Tushar Mountains. This drainage area is tributary to the Beaver River and water from the Beaver River is used in Beaver Valley prior to entering the Milford district.

Infiltration of waters that are lost from flow in canals in the valley is variable. In the Minersville area, losses from canals have been dramatically reduced with the construction of a pipeline in 1978 to transport the water. The canals in the Milford district area are still largely unlined, and loss of water from these canals is estimated to be 30 percent of their total flow (Mower and Cordova, 1974). This amount, estimated to be approximately 4600 acre-ft/yr (5.7 hm^3/yr), recharges the ground-water reservoir. Infiltration of water from ephemeral streams is also considered to be a source of recharge to the ground-water reservoir. Estimated recharge to the Milford

district from this source is 7200 acre-ft/yr (8.9 hm^3/yr) (Mower and Cordova, 1974). In the Beryl district, approximately 3000 acre-ft/yr (3.7 hm^3/yr) of recharge to the ground-water reservoir is from infiltration of ephemeral streams.

Water delivered to farms is either consumed by evapotranspiration or infiltrates to the ground-water reservoir. Mower and Cordova (1974) estimate that approximately 30 percent of the applied water infiltrates based on an analysis of existing methods of irrigation used in the valley. In the Milford district, recharge from this source is approximately 20,000 acre-ft/yr (24.7 hm^3/yr) and 17,5000 acre-ft/yr (21.6 hm^3/yr) in the Beryl district.

Precipitatin falling on acreage during the irrigation season also contributes to recharge of the ground-water reservoir. During the irrigation season, the soil would be saturated, therefore any additional moisture would infiltrate to the ground-water reservoir. In the Milford district, the amount of recharge from this source is estimated to be 1300 acre-ft/yr (1.6 hm^3/yr) and 2000 acre-ft/yr (2.5 hm^3/yr) in the Beryl district.

The movement of ground water into Escalante Valley from surrounding valleys is generally restricted by impermeable bed-rock divides. Although nearly all recharge originates as percipitation in the Beryl District, some water does move through the thin alluvial deposits which provide limited connection with valleys to the east of the Escalante Valley basin. The amount

of underflow through these thin alluvial deposits is estimated to be 600 acre-ft/yr (0.7 hm^3/yr) (Thomas and Taylor, 1946). The amount of underflow from Beaver Valley to the east of the study area into the Milford district is estimated to be 700 acre-ft/yr (0.9 hm^3/yr) (Mower and Cordova, 1974).

Subsurface inflow to the ground-water reservoir also occurs from the precipitation falling on the mountainous areas. Estimates of subsurface inflow from bedrock in the mountains for the Milford district are based on water budget imbalances for the period before the natural hydrological regime was disrupted. Mower and Cordova (1974) estimated this to be 16,000 acre-feet (19.7 hm^3) annually. For the Beryl district, this annual recharge is estimated by Ertec to be approximately 27,000 acre-feet (33.3 hm^3). This value was computed by the method of recharge estimation developed by Maxey and Eakin (1949).

Discharge from the ground-water system, as shown in Table 2 (see page 42), occurs as pumpage from wells and from evapotranspiration that occurs in the low-lying areas of the valley that support various species of phreatophytes. The losses due to evapotranspiration in the Milford district in 1971 were estimated by Mower and Cordova (1974) to be approximately 24,000 acre-feet (29.6 hm^3) based on a modification of estimates made by White in 1932. This estimate was modified to 22,700 acre-ft/yr (28.0 hm^3/yr) based on the present areal extent of phreatophytes in the valley. In the Beryl district, the areas mapped by White were reanalyzed by Ertec, and the original estimate of 5000

acre-feet (6.2 hm^3) annual loss due to evapotranspiration was increased to approximately 30,300 acre-feet (37.4 hm^3). This was due to the inclusion of a larger area than that previously used by White. This larger area is contained within the 30-foot (9-m) to-water line shown on maps used by White in 1932 and is supported through numerical model efforts conducted by Ertec. Average annual pumpage for the period 1969 to 1978 are 60,000 acre-feet (74.0 hm^3) in the Milford district and 79,000 acre-feet (97.4 hm^3) for the Beryl district (USGS, 1978).

6.1.2 <u>Springs</u>

There are a number of small springs around the margins of the valley which are meteoric in nature. These springs discharge only a few gallons per minute and are used primarily for stock watering. Some of this water may seep into the valley-fill ground-water reservoir, but its contribution is negligible.

The largest spring in the Milford district is Hay Springs which formerly discharged from the valley-fill materials south of Milford. This spring, however, ceased flowing by 1972 (Mower and Cordova, 1974). Before large withdrawals from irrigation began, discharge from this spring varied as the water table fluctuated; maximum flows were 2 to 3 cfs (0.06 to 0.08 m^3/s).

There are two hot spring systems in the Milford district. Roosevelt Hot Springs, which ceased flowing in May 1966, is located 12 miles (19 km) northeast of Milford. Peterson (1975) proposes two explanations for the cessation of flow: 1) the channel ways through which the water reached the surface were

gradually scaled by deposition of dissolved solids, especially silica, or 2) a general lowering of the water table in the valley caused a change in ground-water flow patterns, resulting in the flow ceasing at Roosevelt Hot Springs. The second explanation assumes that the springs are connected hydraulically with the shallow ground-water system. This connection has not been established.

Thermo Hot Springs is a collective name for numerous springs that are located about 20 miles (32 km) southwest of Milford. These springs issue from mounds on the valley floor. Mower and Cordova (1974) estimated Thermo Hot Springs to discharge about 100 acre-ft/yr (0.1 hm^3/yr).

6.2 EXPLORATORY DRILLING AND TESTING

6.2.1 Drilling Program

To determine subsurface geology, aquifer characteristics, and the chemical quality of the water at and near the proposed OB sites in Escalante Valley, a drilling and testing program was conducted by Ertec commencing in November 1980. Drilling sites were selected based on several criteria. These criteria are as follows:

- Proximity to the proposed Operational Base location;
- Proximity to other wells - test wells should be located between 1 to 3 miles (2 to 5 km) from any existing wells or springs so that the existing wells can be monitored and to allow for assessing the proper set-back distances for future withdrawals;
- Land status - lands must be public domain lands not being considered for future wilderness area, not presently under wilderness control, or not part of a national park or forest;

- o Accessibility - well site should be easily accessed from existing roads; and
- o Hydrogeologic considerations - depth to water, depth to bedrock, and proximity to any recharge-discharge areas.

The Milford OB drill site is located at T31S, R13W, Section 5bb in Iron County, Utah. Situated on a relatively flat surface at about 5060 feet (1542 m) elevation, the site is approximately 1 mile (2 km) west of an eastward sloping alluvial fan. Access to the site is by a BLM maintained road. Hydrologic reconnaissance of the Milford area indicated that the anticipated water level at the drilling site would be between 65 feet (20 m) and 80 feet (24 m).

In November 1980, a test hole was drilled to a total depth of 600 feet (183 m) and an observation well located 500 feet (152 m) from the test well was drilled to 340 feet (104 m). Geophysical logs indicated possible water-bearing zones between 100 to 320 feet (30 to 98 m). Static water levels were measured at about 30 feet (9 m) below ground surface. Well designs were developed based on an interpretation of potential water-bearing zones from the lithologic samples and geophysical logs. A complete description of the drilling and testing activities, well designs, and other data are included in Appendix E.

The Beryl OB drill site is located at T33S, R17W, Section 21dd. The site is located on a relatively flat surface at an elevation of 5300 feet (1615 m). The site is approximately 5 miles (8 km) northwest of Beryl and is accessed by a BLM maintained road.

Drilling activities commenced in December 1980 with the drilling of an observation well to a total depth of 504 feet (154 m) below ground surface. Geophysical logs and lithologic samples indicated that the potential water-bearing zone occurs from a depth of 189 to 235 (58 to 72 m) and from 255 to 332 feet (78 to 101 m) below ground surface. Static water levels were measured between 185 to 193 feet (56 to 59 m) below ground surface. An interpretation of the resistivity logs indicated a confining layer occurred from 235 to 255 feet (72 to 78 m). A test well located 500 feet (152 m) south of the observation well and was drilled to a total depth of 350 feet (107 m) and an aquifer test was performed. A complete description of the drilling and testing activities, well designs, and other data are included in Appendix E.

6.2.2 Aquifer Testing

Aquifer tests were performed at each of the Milford and Beryl test well sites to determine the hydraulic characteristics of the aquifer, chemical characteristics of the ground water, and the potential impact on nearby wells. In December 1980, step-drawdown and constant discharge aquifer tests were made at the Milford OB site. Ground-water level measurements were made using a Sinco Electro-Piezo recorder with periodic checks made with an electric sounder. The step-drawdown test was made at five different discharge rates which varied between 205 and 550 gallons per minute (gpm) (13 and 35 l/s) with drawdowns varying between 29 and 180 feet (9 and 55 m).

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Drilling activities commenced in December 1980 with the drilling of an observation well to a total depth of 504 feet (154 m) below ground surface. Geophysical logs and lithologic samples indicated that the potential water-bearing zone occurs from a depth of 189 to 235 (58 to 72 m) and from 255 to 332 feet (78 to 101 m) below ground surface. Static water levels were measured between 185 to 193 feet (56 to 59 m) below ground surface. An interpretation of the resistivity logs indicated a confining layer occurred from 235 to 255 feet (72 to 78 m). A test well located 500 feet (152 m) south of the observation well and was drilled to a total depth of 350 feet (107 m) and an aquifer test was performed. A complete description of the drilling and testing activities, well designs, and other data are included in Appendix E.

6.2.2 Aquifer Testing

Aquifer tests were performed at each of the Milford and Beryl test well sites to determine the hydraulic characteristics of the aquifer, chemical characteristics of the ground water, and the potential impact on nearby wells. In December 1980, step-drawdown and constant discharge aquifer tests were made at the Milford OB site. Ground-water level measurements were made using a Sinco Electro-Piezo recorder with periodic checks made with an electric sounder. The step-drawdown test was made at five different discharge rates which varied between 205 and 550 gallons per minute (gpm) (13 and 35 l/s) with drawdowns varying between 29 and 180 feet (9 and 55 m).

After the water level had recovered to the approximate pretest level, a constant discharge aquifer test was initiated. The pump ran for 10 days at a rate of 350 ± 10 gpm (22 ± 0.6 l/s). Maximum drawdown in the test well was about 90.3 feet (27.5 m) and in the observation well about 4.9 feet (1.5 m). Selected wells within 3 miles (5 km) of the site were measured daily to determine if any drawdown occurred in response to the test pumping. No drawdown was noted in any of the existing wells. Water samples were also collected from the test well for both field and laboratory water-quality determinations. Complete water-level recovery occurred within two days of cessation of pumping.

In January 1981, step-drawdown and constant discharge aquifer tests were conducted at the Beryl OB test well. The step-drawdown test was made at four discharge rates which varied between 250 and 775 gpm (16 and 49 l/s) with drawdowns varying between 3 and 21 feet (1 and 6 m). Following this test, a 10-day constant discharge test was performed at 600 gpm ± 10 gpm (38 ± 0.6 l/s). Maximum drawdown in the test well was about 14.1 feet (4.3 m) and about 0.3 feet (0.1 m) in the observation well. Water samples were collected from the discharge at the test well site for both field and laboratory water-quality determinations. Complete water level recovery occurred within two days of cessation of pumping.

Water-level monitoring of one existing well within 3 miles (5 km) of the test site was conducted daily. No drawdown was

observed in this well during the test period. No other wells were monitored in the 3-mile (5-km) radius of the test well site because permission to access other wells could not be obtained.

Based on the results of the aquifer tests at the Milford and Beryl OB sites, aquifer characteristics including transmissivity, storage coefficient, and leakance (Milford OB only) were determined.

At the Milford OB test site, evaluation of the test data and the lithologic logs indicates the possibility of a semiconfined aquifer. The following coefficients were calculated:

Transmissivity	5,400 ft^2/day (500 m^2/day)
Storage Coefficient	0.0004
Leakance	1.5 x 10^{-3} ft^2/day (1.4 x $10^{-4}$$m^2$/day)

The value for transmissivity at the site is in line with the values that Mower and Cordova (1974) indicate for the valley. The storage coefficient, however, represents only the initial or early test results and should not be used to estimate long-term impacts. Mower and Cordova (1974) estimate the average storage coefficient for the Milford district to be 0.2 for long-term withdrawals (one to 20 years). Based on the results of preliminary numerical modeling of the valley conducted by Ertec, a figure of 0.1 was found to be reasonable for the area of the valley where the test well site is located. The fact that ground-water levels along the unlined canals respond rapidly to surface-water flow and infiltration indicate water table conditions and the absence of shallow confinement on the east side

of the valley. The presence of a possible confining unit at the Milford test site suggests that confining layers in the valley-fill material may not be continuous over a large area. Therefore, if locally confined or semiconfined, long-term pumping at moderate to high withdrawal rates will stress the aquifer to where it will respond as a water-table aquifer.

At the Beryl site, evaluation of data indicates an unconfined aquifer condition. The average calculated transmissivity is 8600 ft^2/day (800 m^2/day), and the storage coefficient is 0.05. However, the storage coefficient represents only the early stages of water coming from storage and should not be used to estimate long-term impacts. A figure of 0.2, as estimated for similar sediments in the Milford district by Mower and Cordova (1974), is considered more reasonable for long-term withdrawals (one to 20 years) at the Beryl test site. This value is supported by the results of preliminary modeling efforts conducted by Ertec. Aquifers with transmissivities and storage coefficients such as those indicated in this report are capable of producing large quantities of ground water.

6.3 GROUND-WATER DEVELOPMENT

6.3.1 Ground-Water Availability

The quantity of ground water in storage in the valley-fill aquifer is dependent upon the porosity of the valley fill as well as the volume of saturated fill. The principal ground-water reservoir generally consists of less that 50 percent sand and coarser material with some areas having less than 25 percent sand and

coarser materials. This indicates that a large part of the reservoir is made up of clay and silt, and it is estimated that this type of saturated valley-fill material contains an average of 40 percent water by volume (Mower and Cordova, 1974). This would mean that the amount of water in storage in the upper 100 feet (31 m) of saturated thickness would be approximately 14.3 million acre-feet (17,700 hm^3) in the Beryl district and 13.6 million acre-feet (16,800 hm^3) in the Milford district for a total of about 27.9 million acre feet (34,400 hm^3). The amount of ground water in storage in an aquifer is greater than the amount that can be withdrawn. Specific yield is a measure of the amount of water that can be obtained from aquifer materials due to gravity drainage (water-table conditions). Estimates by Mower and Cordova (1974) for specific yield of this saturated material range from 0.15 to 0.20. Based on these estimates, the amount of water that can be withdrawn from the upper 100 feet (30.5 m) of saturated material is 6.4 million acre-feet (7890 hm^3) for the Beryl district and 6.2 million acre-feet (7645 hm^3) for the Milford district for a combined total of 12.6 million acre-feet (15,535 hm^3).

Declines in the water table in some parts of Escalante Valley have been occurring for over 40 years due to more water being withdrawn annually from the ground-water reservoir than is being recharged. To determine the amount of this overdrafting, several factors must be considered in the hydrologic balance of recharge and discharge.

Tables 1 and 2 (Section 6.1.1) present a summary of the current recharge and discharge occurring in the Milford and Beryl districts. The amount of ground water lost due to evapotranspiration as well as the quantity of water withdrawn by pumpage must be considered as discharge from the ground-water reservoir. Comparison of current recharge with discharge indicates more than 32,900 acre-ft/yr (40.6 hm^3/yr) of water is being overdrafted from the Milford district. In the Beryl district, almost 60,000 acre-ft/yr (74 hm^3/yr) of water is being overdrafted from the ground-water basin at present rates of usage. Because of this trend, the Utah State Engineer has declared both districts closed and will allow no new appropriation of ground water.

6.3.2 Present Development

The Escalante Valley for many years supported a small population where culinary water supplies were obtained largely from perennial streams or springs. Irrigation from wells in the area began in about 1916 and increased markedly after the mid-1940s.

Most of the early wells were constructed in the Milford district with development in the Beryl district beginning in the late 1920s and increasing markedly after the late 1940s, as in the Milford district.

The area in the Beryl district irrigated by ground water during the 1940s increased from 900 acres (364 ha) to 16,000 acres (6475 ha). Annual pumping in the district rose from 2600 to 51,000 acre-feet (3.2 to 62.9 hm^3). Further development

Source	AVERAGE ANNUAL QUANTITY (ACRE-FEET) Milford District	Beryl District	Total
1. Subsurface flow-tributary valleys and from bedrock in the mountains	16,700	27,100	43,800
2. Losses from stream channels	7,200	3,000	10,200
3. Losses from major canals (a)	4,600	--	4,600
SUBTOTAL	28,500 (35 hm^3)	30,100 (37 hm^3)	58,600 (72 hm^3)
4. Infiltration from irrigated lands (b)	20,000	17,500	37,500
5. Infiltration from precipitation on valley floor (c)	1,300	2,000	3,300
TOTAL	49,800 (61 hm^3)	49,600 (61 hm^3)	99,400 (123 hm^3)

a. Average annual discharge at Rocky Ford Dam for period 1932-79 is 25,400 acre-feet (31.3 hm^3) (USGS, 1980).

b. Average annual withdrawals from ground-water reservoir for 10 years 1969-78 were 60,000 acre-feet (74 hm^3) in Milford and 79,000 acre-feet (97 hm^3) in Beryl (USGS, 1980) and irrigation percolation rate of 25 percent. Milford figure includes 5000 acre-feet (6 hm^3) from application of surface-water supplies.

c. Approximately 19,000 acres (7700 ha) in Milford district and 20,000 acres (8100 ha) in Beryl district of irrigated lands.

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SUMMARY OF CURRENT RECHARGE TO ESCALANTE VALLEY

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Source	Milford District	Beryl District	Total
	AVERAGE ANNUAL QUANTITY (ACRE-FEET)		
1. Water pumped from ground-water reservoir (a)	60,000	79,000	139,000
2. Evapotranspiration losses (b)	22,700	30,300	53,000
TOTAL	82,700 ($102\ hm^3$)	109,300 ($135\ hm^3$)	192,000 ($237\ hm^3$)

a. Average annual pumpage 1969-78 (USGS, 1980).

b. Based on approximately 90,000 acres (36,400 ha) in Milford district and 120,000 acres (48,600 ha) in Beryl district of non-irrigated, low-lying lands that support phreatophytes.

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SUMMARY OF CURRENT DISCHARGE FROM ESCALANTE VALLEY

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TABLE 2

since that period has increased this annual rate to 79,000 acre-feet (97.4 hm^3) with more than 20,000 acres (8000 ha) being irrigated in the Beryl District in 1979. In the Milford district, pumping increased from 60 acre-feet (.07 hm^3) in 1918 to 30,000 acre-feet (37.0 hm^3) in 1950. Continued development has increased the average annual withdrawals from the ground-water reservoir to approximately 60,000 acre-feet (74.0 hm^3) in the Milford district with irrigated acreage being about 19,000 acres (7700 ha) in 1979.

The increase of pumping since the 1940s has resulted in a marked decline of ground-water levels in both districts. In the Beryl district, the static water levels have declined as much as 55 feet (16.8 m) in wells near the center of the heavy pumping area. The amount of decline in the water level decreases away from the pumping center to the margins of the valley. Throughout the district, water levels have declined an average of 20 feet (6 m) since 1950.

In the Milford district, water levels have declined an overall average of 15 feet (4.6 m) since 1950 with the greatest declines occurring in the area from about 2 to 6 miles (3 to 10 km) south of Milford.

6.3.3 Allocations

A listing of the certificates, proofs, permits, and applications filed in the Milford and Beryl districts is provided in Appendix F. In the Milford district area there are 250 claims totaling 55,500 acre-ft/yr (68.4 hm^3/yr) and in the Beryl

district area there are 471 claims for 108,200 acre-ft/yr (133.4 hm^3/yr). These claims greatly exceed the estimated 88,000 acre-ft/yr (108.5 Hm^3/yr) perennial yield for the valley. This perennial yield estimate includes 58,000 acre-ft/yr (71.5 hm^3/yr) in Milford district and 30,000 acre-ft/yr (32.0 hm^3/yr) for the combined Lund/Beryl-Enterprise hydrographic area. The Lund Beryl-Enterprise figure is an average of the reported range (Ertec Western, 1980).

7.0 WATER QUALITY

7.1 CHEMICAL CONSTITUENTS

Chemical analyses of ground water from 38 wells and two springs were used to evaluate water quality of the Milford district. A complete listing of the data is presented in Appendix D, Table D-1. Six water samples (from four wells and six springs) were collected by Ertec during a field reconnaissance study in November 1980. Other water-quality data used in the analyses were obtained from the USGS records of water samples collected after 1970. Additional chemical data were available for numerous wells and five springs in the Milford district and are listed in Appendix D, Table D-2, however, these data were not used for the water-quality evaluation due to the date of sampling (pre-1970), repetition in sampling, or incomplete analyses.

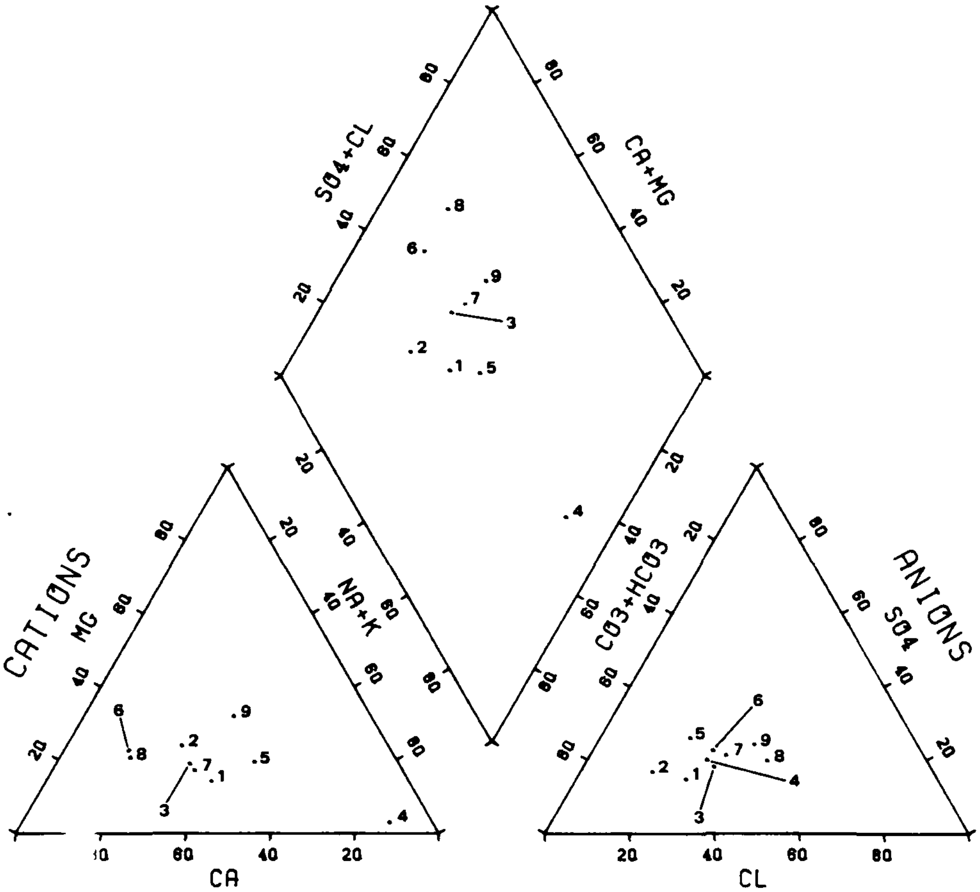
Chemical data from 22 wells and six springs were used in the evaluation of the water quality of the Beryl district and the data are also presented in Appendix D, Table D-1. Water samples were collected from 12 wells and six springs by Ertec in December 1980. The remaining data are from the analyses of water samples collected by the USGS after 1970. Additional chemical data for numerous wells and springs in the Beryl district were available and are listed in Appendix D, Table D-2, but were not considered in the water-quality evaluation for the same reasons as stated above.

Trilinear diagrams (Piper, 1944) are presented to illustrate the differing water types. As the total dissolved solids (TDS)

concentration increases, the ground-water quality gradually evolves from a bicarbonate to sulfate to chloride type (anions).

Figure 5 is a trilinear diagram showing wells in the Milford district which have TDS concentrations ranging from 224 mg/l to 463 mg/l. Most of the water from these wells has a calcium bicarbonate composition; water from one well is indicated as sodium bicarbonate in type. These water samples are from wells in various locations throughout the district. Figure 6 is a trilinear diagram showing wells having TDS concentrations ranging from 476 mg/l to 584 mg/l. These water compositions vary from mixed calcium sulfate-chloride to calcium bicarbonate. Most of these wells are located in the heavily irrigated area in the immediate vicinity of Milford. Water having TDS concentrations ranging from 610 mg/l to 954 mg/l are shown in Figure 7. These water samples are classified as calcium-sodium sulfate and calcium-sodium chloride and are located throughout the entire Milford district.

Figure 8 is a trilinear diagram showing wells having TDS concentrations which exceed 1000 mg/l. These water samples are predominantly sodium chloride in composition. Water of the poorest quality is located within a 5-mile (8-km) radius of the town of Milford. The poorer water quality in the area is probably attributable to the infiltration of irrigation water. Typically, salts naturally occurring in the applied irrigation water are concentrated through evaporation and remain in the soil as concentrations of leachable minerals. Subsequent applications



PERCENTAGE REACTING VALUES

MILFORD DISTRICT, ESCALANTE VALLEY -- WELLS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			MILLIGRAMS PER LITER / MILLI-EQUIVALENTS PER LITER						
1	(C-28-10)14BBA	224.00	6.00	33.00	31.20	134.00	25.00	33.00	-1.30
			0.49	1.65	1.38	2.14	0.52	0.92	
2	(C-28-11)35CAD	228.00	8.80	30.00	19.90	131.00	25.00	19.00	-1.82
			0.72	1.50	0.82	2.10	0.52	0.53	
3	(C-29-11)14CDB1	250.00	8.70	38.00	28.40	120.00	32.00	41.00	0.85
			0.71	1.90	1.19	1.92	0.67	1.15	
4	(C-30-11)22DDC	253.00	1.20	7.30	67.30	117.00	34.00	36.00	-2.08
			0.10	0.38	2.98	1.87	0.71	1.01	
5	(C-30-13)8CAA	318.00	11.00	32.00	48.80	158.00	59.00	36.00	-1.21
			0.90	1.60	2.16	2.53	1.24	1.01	
6	(C-29-10)18DAA1	410.00	18.00	86.00	27.60	190.00	68.00	62.00	5.81*
			1.48	4.29	1.15	3.04	1.39	1.74	
7	(C-29-11)27DAD	433.00	14.00	67.00	52.30	194.00	67.00	75.00	1.00
			1.15	3.34	2.25	3.10	1.41	2.10	
8	(C-29-11)12DDD	449.00	17.00	86.00	27.00	157.00	62.00	100.00	1.43
			1.39	4.29	1.12	2.51	1.30	2.80	
9	(C-30-13)25ABB	463.00	30.00	51.00	63.20	178.00	84.00	97.00	2.68*
			2.48	2.54	2.73	2.85	1.78	2.72	

* = ion balance differs by more than 2.5%.

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MILFORD DISTRICT,
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WELLS – WATER CHEMISTRY

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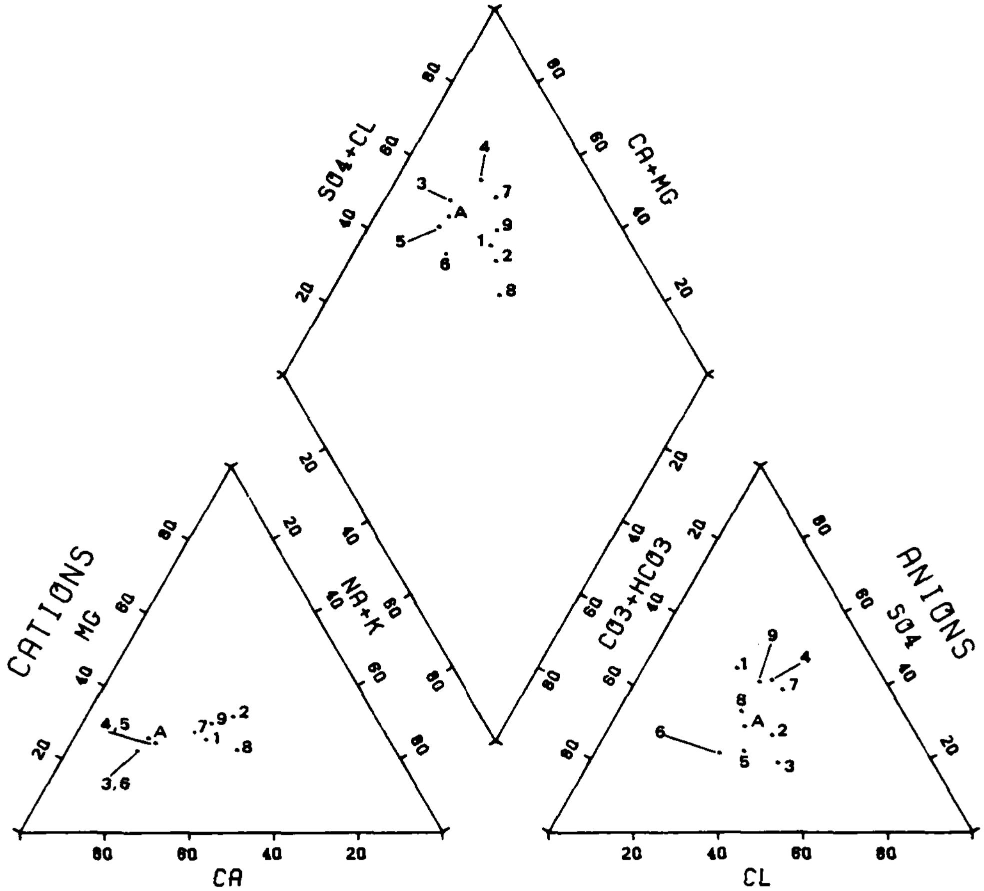
FIGURE 5



PERCENTAGE REACTING VALUES

MILFORD DISTRICT, ESCALANTE VALLEY -- WELLS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			MILLIGRAMS PER LITER / MILLI-EQUIVALENTS PER LITER						
1	(C-28-10)16CDA	478.00	23.00	65.00	52.60	158.00	160.00	59.00	-0.62
			1.89	3.24	2.32	2.53	3.36	1.65	
2	(C-31-13)5BB	490.00	31.00	55.00	63.70	176.00	102.00	115.00	-0.70
			2.54	2.74	2.78	2.82	2.14	3.22	
3	(C-29-11)1ADD2	510.00	23.00	110.00	32.50	190.00	73.00	130.00	3.07*
			1.89	5.49	1.38	3.04	1.53	3.64	
4	(C-28-10)30BDC3	522.00	24.00	91.00	37.40	137.00	160.00	92.00	-0.12
			1.97	4.54	1.60	2.19	3.38	2.58	
5	(C-29-10)18DCD	525.00	22.00	100.00	31.80	207.00	80.00	95.00	3.05*
			1.80	4.99	1.34	3.31	1.66	2.66	
6	(C-29-10)5CDD5	540.00	25.00	120.00	32.00	270.00	89.00	92.00	3.41*
			2.05	5.99	1.34	4.32	1.87	2.58	
7	(C-28-10)8AAD2	550.00	29.00	86.00	52.70	140.00	160.00	110.00	1.65
			2.38	4.29	2.30	2.24	3.36	3.08	
8	(C-28-11)12ABB	561.00	23.00	64.00	78.90	200.00	130.00	86.00	0.65
			1.89	3.19	3.37	3.20	2.73	2.41	
9	(C-31-13)18AAD	569.00	32.00	71.00	61.70	174.00	180.00	96.00	-2.20
			2.62	3.54	2.69	2.78	3.78	2.89	
A	(C-29-10)6DDD	584.00	30.00	110.00	39.00	217.00	120.00	99.00	4.70*
			2.48	5.49	1.68	3.47	2.52	2.77	

* = ion balance differs by more than 2.5%.

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WELLS – WATER CHEMISTRY

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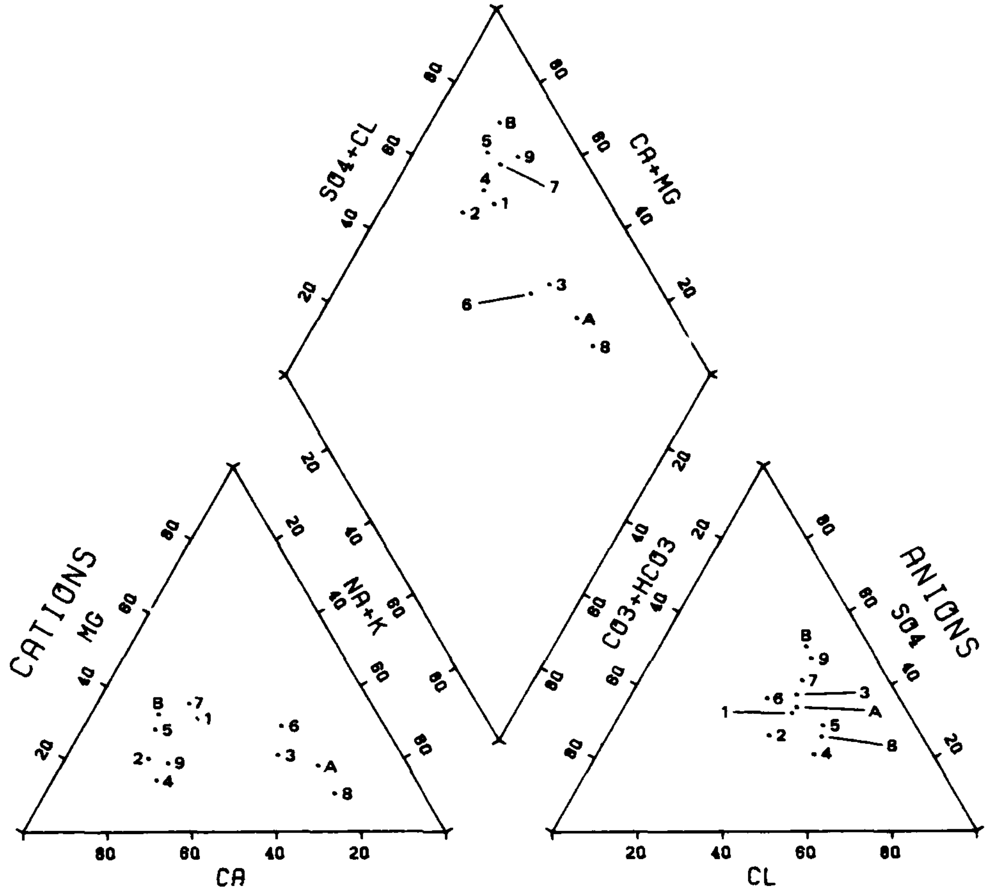
FIGURE 6



PERCENTAGE REACTING VALUES

MILFORD DISTRICT, ESCALANTE VALLEY -- WELLS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			MILLIGRAMS PER LITER MILLI-EQUIVALENTS PER LITER						
1	(C-30-13)30800	610.00	38.00 3.12	88.00 4.39	59.50 2.59	181.00 2.90	160.00 3.38	150.00 4.20	-1.74
2	(C-28-11)36DCC	623.00	26.00 2.13	130.00 6.49	48.80 2.09	218.00 3.49	120.00 2.52	130.00 3.64	5.19*
3	(C-29-11)9CBB	645.00	24.00 1.97	56.00 2.79	106.70 4.69	140.00 2.24	140.00 2.94	126.00 3.53	4.12*
4	(C-29-11)10000	665.00	20.00 1.64	92.00 4.59	40.10 1.69	136.00 2.18	76.00 1.60	140.00 3.92	1.48
5	(C-29-10)5ADD	670.00	37.00 3.03	120.00 5.99	43.50 1.87	142.00 2.27	140.00 2.94	180.00 5.04	3.04*
6	(C-31-13)4BCC	680.00	39.00 3.20	55.00 2.74	117.40 5.18	208.00 3.33	183.00 3.84	122.00 3.42	2.47
7	(C-28-10)28CDD1	719.00	49.00 4.02	100.00 4.99	58.00 2.51	152.00 2.43	230.00 4.83	160.00 4.48	-0.94
8	(C-29-12)36CBB	773.00	16.00 1.31	54.00 2.69	194.60 8.65	186.00 3.01	153.00 3.21	225.00 6.30	0.54
9	(C-27-11)34DBA	821.00	28.00 2.30	140.00 6.99	70.10 3.08	118.00 1.89	270.00 5.67	160.00 4.48	1.31
A	(C-30-12)9ADD	823.00	28.00 2.30	55.00 2.74	173.70 7.75	195.00 3.12	230.00 4.83	180.00 5.04	-0.79
B	(C-28-10)19BCD2	954.00	60.00 4.92	160.00 7.98	57.00 2.45	147.00 2.35	370.00 7.77	190.00 5.32	-0.28

* = ion balance differs by more than 2.5%.

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WELLS – WATER CHEMISTRY

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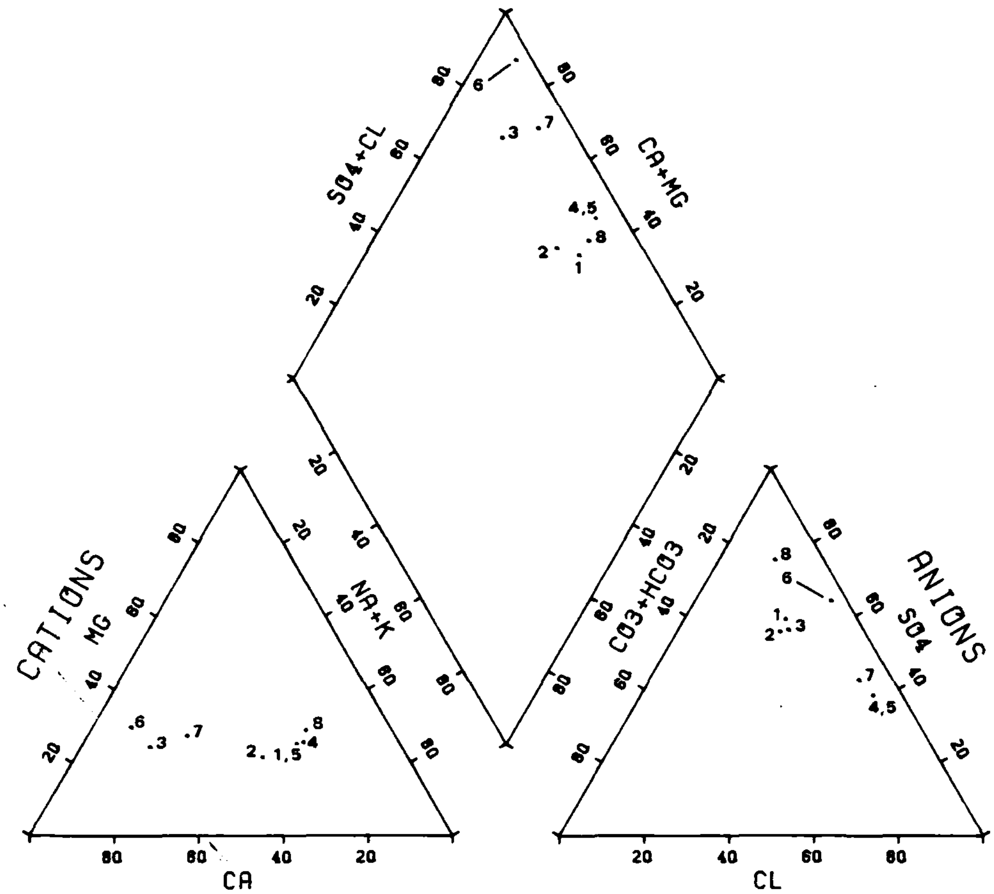
FIGURE 7



PERCENTAGE REACTING VALUES

MILFORD DISTRICT, ESCALANTE VALLEY -- WELLS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			MILLIGRAMS PER LITER / MILLI-EQUIVALENTS PER LITER						
1	(C-29-11)4BAA	1110.00	55.00	89.00	202.30	178.00	490.00	160.00	1.10
			4.51	4.44	9.08	2.85	10.29	4.48	
2	(C-28-11)23CBB3	1120.00	45.00	120.00	178.00	220.00	460.00	150.00	-0.10
			3.69	5.99	7.67	3.52	9.68	4.20	
3	(C-28-11)25DCD	1230.00	59.00	240.00	75.80	220.00	520.00	180.00	1.48
			4.84	11.98	3.24	3.52	10.92	5.04	
4	(C-28-10)8CBA	2820.00	110.00	290.00	513.00	208.00	860.00	920.00	-0.88
			9.02	14.47	22.84	3.33	18.08	25.78	
5	(C-28-10)18CAB	2820.00	100.00	290.00	513.00	208.00	860.00	920.00	-1.77
			8.20	14.47	22.84	3.33	18.06	25.78	
6	(C-27-13)9AB	3240.00	190.00	650.00	108.70	132.00	1600.00	600.00	0.22
			15.58	32.43	4.73	2.11	33.60	16.80	
7	(C-28-10)17CCC	3320.00	190.00	570.00	305.00	280.00	1100.00	960.00	2.68*
			15.58	28.44	13.44	4.48	23.10	26.88	
8	(C-28-10)5DAD2	4130.00	230.00	270.00	743.00	470.00	2300.00	300.00	1.00
			18.86	13.47	33.19	7.52	48.30	8.40	

* = Ion balance differs by more than 2.5%.

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MILFORD DISTRICT,
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WELLS – WATER CHEMISTRY

28 MAY 81 FIGURE 8

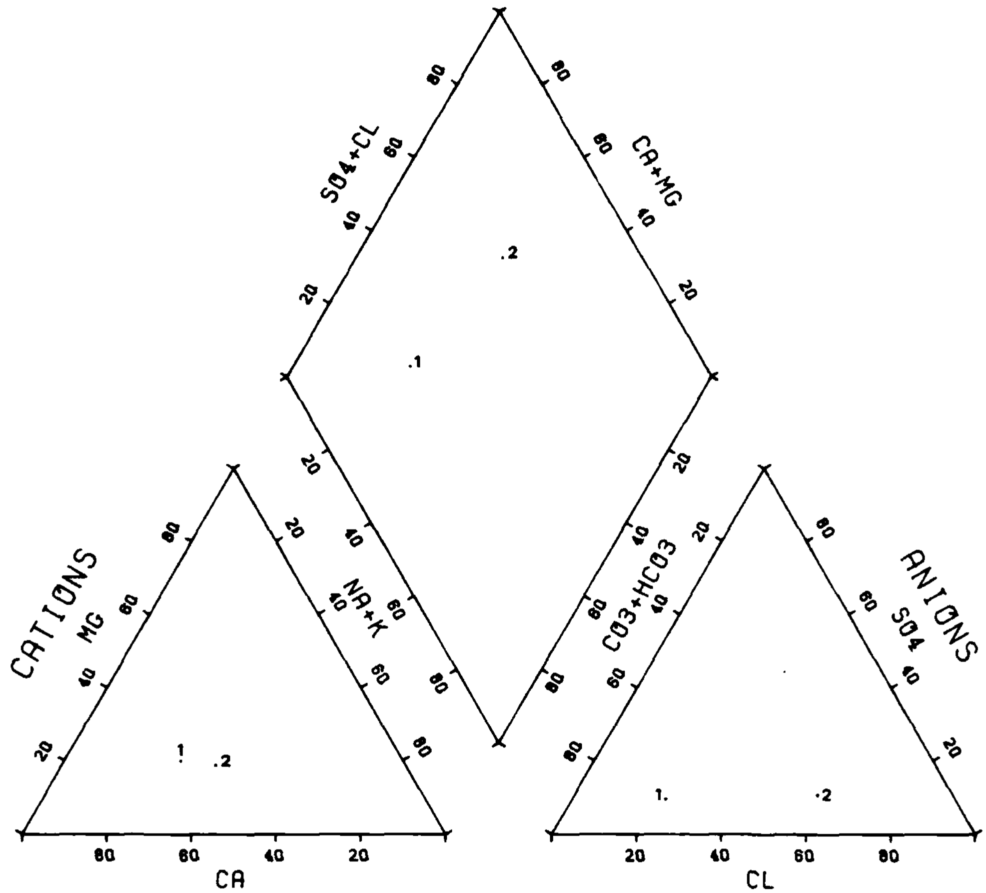
of water move these minerals downward to the ground-water reservoir. Chemicals from fertilizers and pesticides, which are applied at the surface, may also be carried into the ground-water system.

Figure 9 shows the water types of two springs sampled in the Milford district. One spring has bicarbonate water and one has chloride water. Both springs are located in or near volcanic terrain.

In summary, the water chemistry in the Milford district is widely varied. Concentrations of TDS in water samples range from 224 mg/l to 4130 mg/l. Water types noted include calcium bicarbonate, sodium bicarbonate, calcium sulfate, sodium sulfate, magnesium sulfate, calcium chloride, and sodium chloride. The pH values remained relatively constant among the samples collected. The values ranged from 7.1 to 8.9 pH units and averaged 7.9 pH units.

Figure 10 shows the water types from wells in the Beryl district which have TDS concentrations ranging from 230 mg/l to 490 mg/l. These water samples are calcium bicarbonate in composition except for water from one well located at (C-35-16)9add1 which has a higher concentration of chloride. Most of these wells are located in the southwestern periphery of the heavily pumped area.

Figure 11 is a trilinear diagram showing water types from wells in the Beryl district which have TDS concentrations ranging from 609 mg/l to 2000 mg/l. These wells are located throughout the



PERCENTAGE REACTING VALUES

MILFORD DISTRICT, ESCALANTE VALLEY -- SPRINGS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			------ MILLIGRAMS PER LITER ------ / ----- MILLI-EQUIVALENTS PER LITER -----						
1	(C-31-15)13B	420.00	17.00	78.00	45.00	318.00	31.00	55.00	-0.38
			1.39	3.79	2.01	5.08	0.65	1.54	
2	(C-29-12)9CBD	774.00	28.00	114.00	98.10	248.00	61.00	247.00	0.43
			2.30	5.89	4.28	3.97	1.28	6.92	

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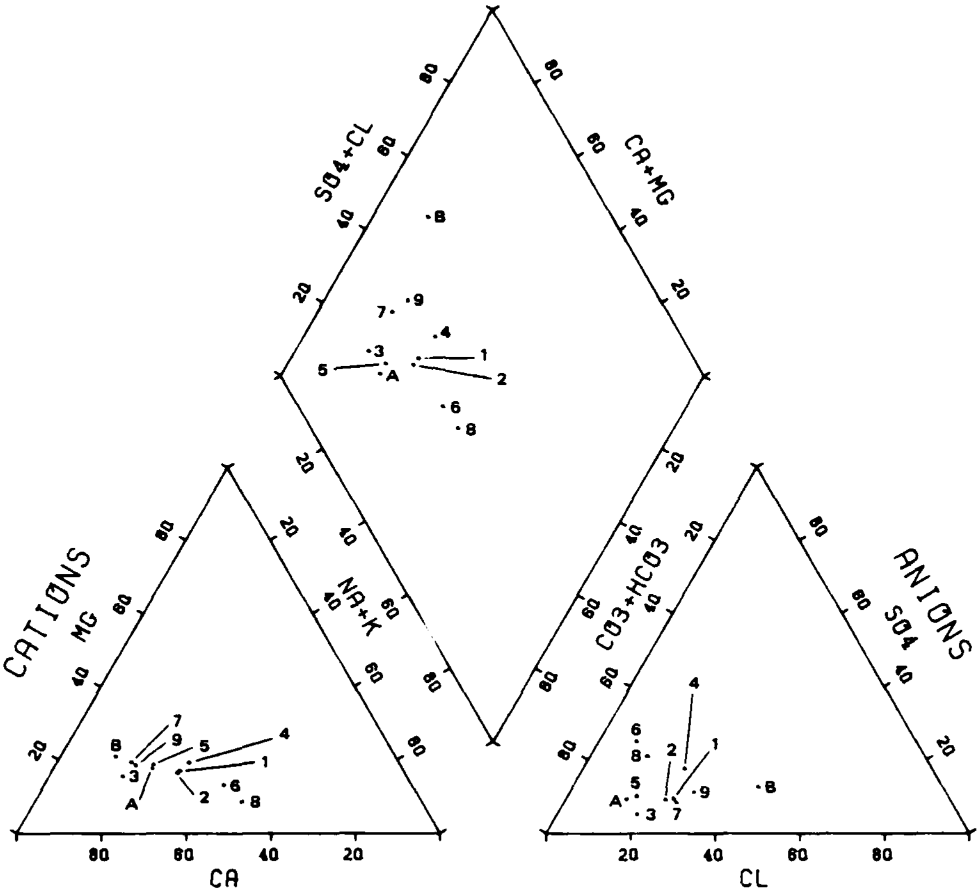
MILFORD DISTRICT,
ESCALANTE VALLEY
SPRINGS – WATER CHEMISTRY

28 MAY 81 FIGURE 9



PERCENTAGE REACTING VALUES

BERYL DISTRICT, ESCALANTE VALLEY -- WELLS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			MILLIGRAMS PER LITER / MILLI-EQUIVALENTS PER LITER						
1	(C-37-16) 4BDD1	230.00	7.70	40.00	25.80	140.00	15.00	31.00	4.61*
			0.63	2.00	1.13	2.24	0.31	0.87	
2	(C-37-16) 4BDC1	232.00	7.50	41.00	25.70	150.00	15.00	30.00	3.13*
			0.61	2.05	1.12	2.40	0.31	0.84	
3	(C-36-16) 15CDD	294.00	9.00	65.00	19.60	225.40	11.00	32.00	0.77
			0.74	3.24	0.83	3.61	0.23	0.90	
4	(C-33-17)21DD	297.00	10.00	43.00	32.30	150.00	34.00	35.00	2.45
			0.82	2.15	1.33	2.40	0.71	0.98	
5	(C-36-17)36AAD1	300.00	11.00	57.00	26.80	190.00	19.00	24.00	8.36*
			0.90	2.84	1.11	3.04	0.40	0.67	
6	(C-34-17) 24ADD	304.00	6.70	38.00	42.70	171.40	49.00	13.00	1.16
			0.55	1.90	1.79	2.75	1.03	0.36	
7	(C-35-16)21DCC3	310.00	12.00	65.00	21.80	190.00	18.00	44.00	4.78*
			0.98	3.24	0.89	3.04	0.38	1.23	
8	(C-34-18) 34CCC	321.00	4.50	38.00	50.70	170.30	41.00	20.00	3.13*
			0.37	1.90	2.15	2.73	0.86	0.56	
9	(C-35-16)32DCD1	357.00	13.00	73.00	26.80	210.00	28.00	54.00	3.06*
			1.07	3.64	1.10	3.36	0.59	1.51	
A	(C-37-17)12BDC1	426.00	15.00	84.00	36.50	300.00	27.00	32.00	5.91*
			1.23	4.19	1.63	4.80	0.57	0.90	
B	(C-35-16) 9AD01	490.00	21.00	110.00	26.40	210.00	45.00	120.00	3.84*
			1.72	5.49	1.07	3.36	0.94	3.36	

* = ion balance differs by more than 2.5%.

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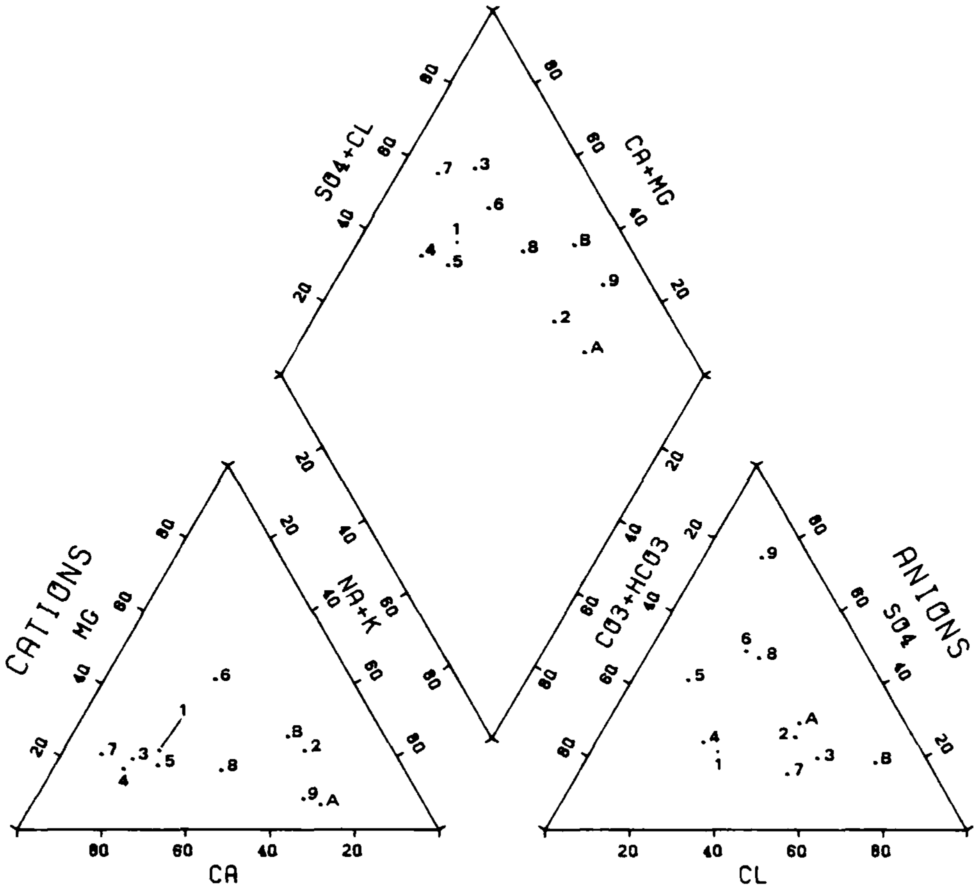
BERYL DISTRICT,
ESCALANTE VALLEY
WELLS – WATER CHEMISTRY

28 MAY 81

FIGURE 10



PERCENTAGE REACTING VALUES

BERYL DISTRICT, ESCALANTE VALLEY -- WELLS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			------------ MILLIGRAMS PER LITER ------------ / ----- MILLI-EQUIVALENTS PER LITER ------------						
1	(C-33-17)25ADD	609.00	24.00	102.00	49.00	268.00	108.00	96.00	-0.50
			1.97	5.09	2.05	4.29	2.23	2.69	
2	(C-33-14)17DDD	621.00	30.00	49.00	147.30	200.00	136.00	187.00	0.79
			2.48	2.45	6.57	3.20	2.88	5.24	
3	(C-34-16)28DCC2	625.00	24.00	130.00	43.30	160.00	91.00	190.00	2.27
			1.97	6.49	1.79	2.56	1.91	5.32	
4	(C-35-17) 8CBB2	673.00	21.00	140.00	42.60	310.40	112.00	88.00	3.23*
			1.72	6.99	1.73	4.97	2.35	2.48	
5	(C-34-18) 11ACC	679.00	22.00	120.00	59.10	307.20	210.00	50.00	-2.05
			1.80	5.99	2.51	4.92	4.41	1.40	
6	(C-32-12)6CBB	896.00	65.00	85.00	78.10	228.00	300.00	105.00	0.32
			5.33	4.24	3.40	3.65	6.30	2.94	
7	(C-36-16) 5AAA1	933.00	41.00	230.00	37.60	340.00	110.00	270.00	3.34*
			3.36	11.48	1.53	5.44	2.31	7.58	
8	(C-35-15) 28BDD	934.00	29.00	130.00	133.40	226.20	310.00	132.00	3.40*
			2.38	6.49	5.94	3.62	6.51	3.70	
9	(C-36-15) 7DCC1	1100.00	16.00	90.00	229.10	110.00	530.00	73.00	3.26*
			1.31	4.49	10.14	1.76	11.13	2.04	
A	(C-33-16)11CDC	1700.00	23.00	143.00	451.00	428.00	372.00	435.00	3.23*
			1.89	7.14	19.61	6.85	7.81	12.18	
B	(C-32-16)26ABB2	2000.00	108.00	162.00	399.00	248.00	265.00	749.00	6.63*
			8.86	8.08	17.90	3.97	5.56	20.97	

* = ion balance differs by more than 2.5%.

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BERYL DISTRICT,
ESCALANTE VALLEY
WELLS – WATER CHEMISTRY

28 MAY 81

FIGURE 11

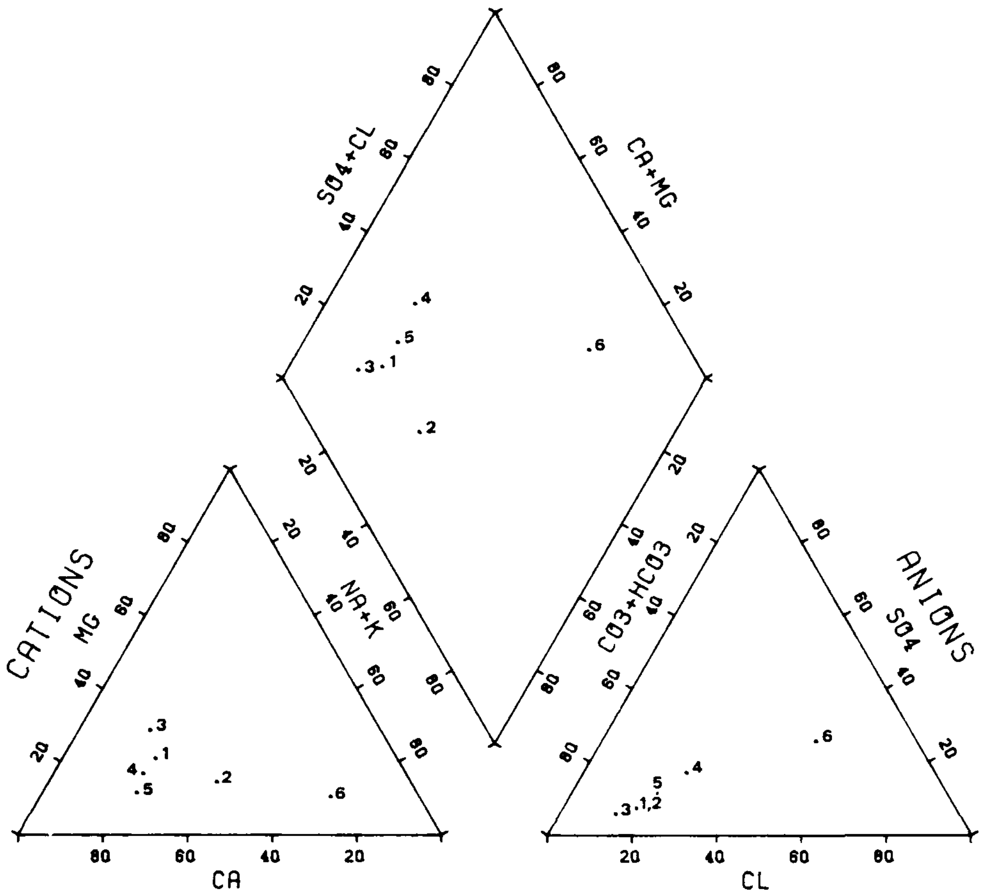
Beryl district. The water has compositions which are predominantly sulfate and chloride type. Figure 12 shows the water types from six springs in the Beryl district. Five of the springs have bicarbonate type compositions and have low TDS concentrations ranging from 218 mg/l to 440 mg/l. One spring located at (C-32-14)18daa has a sodium chloride composition and a TDS of 773 mg/l. All six springs are located near the rock boundary on the northwestern side of the Beryl district.

7.2 SUITABILITY OF WATER FOR PUBLIC SUPPLY

Most of the waters analyzed are suitable for use as domestic drinking water as indicated in Drawing 2. Table 3 lists primary drinking water standards of the EPA and Tables 4 and 5 list primary and secondary drinking water standards of the state of Utah. Utah standards are similar to, but more stringent than, those required by the federal government. For example, there is no federal primary standard for sulfate or TDS concentrations, but the state of Utah has set primary standards of 500 mg/l for sulfate and 2000 mg/l for TDS.

One well in the Milford district, (C-27-11)34dba, has water which exceeds federal and state standards for nitrate concentrations. This well is located near the town of Milford in an area of heavy agricultural activity. Nitrate contamination may be due to the use of fertilizers in this region.

Two wells sampled in the Milford district have water with fluoride concentrations which exceed both the federal and the



PERCENTAGE REACTING VALUES

BERYL DISTRICT, ESCALANTE VALLEY -- SPRINGS

KEY	STATION NAME OR NUMBER	TOTAL DISSOLVED SOLIDS	MG	CA	NA+K	CO3+ HCO3	SO4	CL	ION BALANCE
			MILLIGRAMS PER LITER / MILLI-EQUIVALENTS PER LITER						
1	(C-34-19) 2CDA	218.00	9.70	44.00	20.30	170.10	12.00	23.00	2.73*
			0.80	2.20	0.83	2.72	0.25	0.64	
2	(C-33-18) 32CCD	263.00	7.40	39.00	37.70	192.20	14.00	25.00	1.74
			0.61	1.95	1.68	3.08	0.29	0.70	
3	(C-33-18) 11BA	347.00	19.00	60.00	21.00	284.10	15.00	26.00	-1.19
			1.56	2.99	0.91	4.55	0.31	0.73	
4	(C-34-19) 20CB	363.00	11.00	68.00	27.70	200.60	44.00	47.00	-0.24
			0.90	3.39	1.14	3.22	0.92	1.32	
5	(C-31-14) 31ACD	440.00	10.00	96.00	35.70	298.00	28.00	58.00	1.81
			0.82	4.79	1.59	4.74	0.59	1.62	
6	(C-32-14) 16DAA	773.00	16.00	54.00	194.60	188.00	153.00	225.00	0.54
			1.31	2.69	8.65	3.01	3.21	6.30	

* = ion balance differs by more than 2.5%.

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BERYL DISTRICT
ESCALANTE VALLEY
SPRINGS – WATER CHEMISTRY

28 MAY 81 FIGURE 12

MAXIMUM CONTAMINANT LEVELS FOR INORGANIC CHEMICALS

CONTAMINANT	LEVEL, mg/l
ARSENIC	0.05
BARIUM	1.
CADMIUM	0.010
CHROMIUM	0.05
LEAD	0.05
MERCURY	0.002
NITRATE (AS N)	10.
SELENIUM	0.01
SILVER	0.05

NOTE: The maximum contaminant level for nitrate is applicable to both community water systems and non-community water systems. The other inorganic chemicals apply only to community water systems.

MAXIMUM CONTAMINANT LEVELS FOR FLUORIDE

When the annual average of the maximum daily air temperatures for the location in which the community water system is situated is:

TEMPERATURE, °F	TEMPERATURE, °C	LEVEL, mg/l
53.7 and below	12.0 and below	2.4
53.8 to 58.3	12.1 to 14.6	2.2
58.4 to 63.8	14.7 to 17.6	2.0
63.9 to 70.6	17.7 to 21.4	1.8
70.7 to 79.2	21.5 to 26.2	1.6
79.3 to 90.5	26.3 to 32.5	1.4

Reference: U.S. Environmental Protection Agency, 1976, National Interim Primary Drinking Water Regulations, EPA - 570/9-76-003

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NATIONAL INTERIM PRIMARY
DRINKING WATER REGULATIONS

28 MAY 81

TABLE 3

CONTAMINANT	LEVEL, mg/l
ARSENIC	0.05
BARIUM	1.0
CADMIUM	0.01
CHROMIUM	0.05
LEAD	0.05
MERCURY	0.002
NITRATE (AS N)	10.0
SELENIUM	0.01
SILVER	0.05
SULFATE	500
T D S	2000[1]
FLUORIDE	1.6[2]

1. If T D S is greater than 1000 mg/l, "the supplier shall show (to the Utah State Bureau of Environmental Health) that no better water is available. The (state) shall not allow the use of an inferior source of water if a better source of water (i.e. lower in T D S) is available."

2. Recommended fluoride levels vary with annual average daily maximum air temperature. Since this average has not been calculated for each valley, the lower limit set by the U.S. Environmental Protection Agency and the State of Utah has been used.

Reference: Utah State Bureau of Environmental Health

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UTAH PRIMARY DRINKING WATER STANDARDS MAXIMUM CONTAMINANT LEVELS FOR INORGANIC CHEMICALS

28 MAY 81 TABLE 4

CONTAMINANT	LEVEL, mg/l
CHLORIDE	250
COLOR	15 COLOR UNITS
COPPER	1.
CORROSIVITY	NONCORROSIVE
FOAMING AGENTS	0.5
IRON	0.3
MANGANESE	0.05
ODOR	3 THRESHOLD ODOR NUMBER
pH	6.5 – 8.5 pH UNITS
ZINC	5.

Reference: Utah State Bureau of Environmental Health.

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UTAH SECONDARY DRINKING WATER STANDARDS MAXIMUM CONTAMINANT LEVELS FOR INORGANIC CHEMICALS

28 MAY 81 TABLE 5

state primary drinking water standards. These wells are also located in the immediate vicinity of the town of Milford.

Utah primary standards for both sulfate and TDS are exceeded in five wells in the Milford district. Water from one additional well exceeds the sulfate standard only. The wells are all located in the immediate Milford vicinity. These high sulfate and TDS concentrations are probably the result of intensive agricultural activity.

One well in the Beryl district, located in (C-36-15)7dcc1, has water quality that exceeds Utah sulfate standards. Two wells had TDS concentrations that were close to or equal to the Utah standard of 2000 mg/l. Two of these wells are located in the northwestern portion of the Beryl district near the rock boundary and may be the result of a relatively shallow perched ground-water zone being affected by surface activity in the area.

Future development of water resources for public supply in the Milford district is feasible from a water-quality standpoint in areas south of Township 29 South and west of Range 11 West. Ground-water samples in this area meet federal and state drinking water standards for all inorganic constituents tested. Large-scale development of additional water supplies is not recommended in the immediate Milford vicinity. Development of water resources in the Beryl district for public supply is also feasible when considering the water quality.

7.3 WATER QUALITY SUITABILITY FOR CONSTRUCTION

Construction water uses are summarized in Table 6. The only construction use where water quality poses a potential problem is in the mixing of cement. Water suitable for cement mixing is unlikely to cause problems in soil compaction for road and rail construction or in dust suppression.

The recommended limits on the quality of mixing water for cement are summarized in Table 7. The Portland Cement Association (1966) suggests that water containing less than 2000 mg/l of TDS is generally satisfactory for mixing cement. All but five water samples from the Milford district meet this criterion. The five wells, which exceed TDS criteria, are all located in the immediate vicinity of Milford. All but one of water samples from the Beryl district fall within all construction criteria limits.

ACTIVITY	WATER USE
Roads	Soil Compaction Dust Palliative Mix
Railroads	Compaction
Shelters	Compaction Concrete Soil Cement
Construction Camps	Potable Water
Miscellaneous	Dust Control Equipment Washing Revegetation

Reference: Table 13: MX Verifiable Horizontal MPS Facility Subsystem (Vol. I) Ralph M. Parsons Company (1979).

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SUMMARY OF CONSTRUCTION WATER USE

28 MAY 81 TABLE 6

CONSTITUENT		mg/l
Total Dissolved Solids	<	2000
Suspected Solids	<	2000
Iron	<	20
Sodium Sulphide	<	100
Sodium-Potassium Carbonates and Bicarbonates	<	1000
Sodium Chloride	<	20,000
Sodium Sulphate	<	10,000
Magnesium Sulphate	<	40,000
Magnesium Chloride	<	40,000

Reference: Portland Cement Association (1966)

NOTE: Waters with HCO_3 concentrations of 550 mg/l are listed as suitable for concrete manufacture. No upper limit was established by Portland Cement Association research (Mr. Frank Randall – Portland Cement Assoc. (1981) Per. Comm.).

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WATER QUALITY CRITERIA
FOR MIXING CEMENT

28 MAY 81

TABLE 7

R 19 W R 18 W R 17 W

LEGEND

NUMBER	LOCATION	NUMBER	LOCATION
1	(C–27–11) 34 dba	35	(C–30–13) 25 abb
2	(C–27–13) 9 ab	36	(C–30–13) 30 bdd
3	(C–28–10) 5 dad–2	37	(C–31–13) 4 bcc
4	(C–28–10) 8 aad–2	38	(C–31–13) 5 bb
5	(C–28–10) 8 cba	39	(C–31–13) 18 aad
6	(C–28–10) 14 bba	40	(C–31–14) 31 acd
7	(C–28–10) 16 cda	41	(C–31–15) 13 b
8	(C–28–10) 17 ccc	42	(C–32–12) 6 cbb
9	(C–28–10) 18 cab	43	(C–32–14) 18 daa
10	(C–28–10) 19 bcd–2	44	(C–32–16) 26 abb–2
11	(C–28–10) 28 cdd–1	45	(C–33–14) 17 ddd
12	(C–28–10) 30 bdc–3	46	(C–33–16) 11 cdc
13	(C–28–11) 12 abb	47	(C–33–17) 21 dd
14	(C–28–11) 23 cbb–3	48	(C–33–17) 25 add
15	(C–28–11) 25 dcd	49	(C–33–118)11 ba
16	(C–28–11) 35 cad	50	(C–33–18) 32 ccd
17	(C–28–11) 36 dcc	51	(C–34–16) 28 dcc–2
18	(C–29–10) 5 add	52	(C–34–17) 24 add
19	(C–29–10) 5 ccd–5	53	(C–34–18) 11 acc
20	(C–29–10) 8 ddd	54	(C–34–18) 34 ccc
21	(C–29–10) 18 daa–1	55	(C–34–19) 2 cda
22	(C–29–10) 18 dcd	56	(C–34–19) 2 dcb
23	(C–29–11) 1 add–2	57	(C–35–15) 28 bdd
24	(C–29–11) 4 baa	58	(C–35–16) 9 add–1
25	(C–29–11) 9 cbb	59	(C–35–16) 21 dcc–3
26	(C–29–11) 10 ddd	60	(C–35–16) 32 dcd–1
27	(C–29–11) 12 ddd	61	(C–35–17) 8 cbb–2
28	(C–29–11) 14 cdb–1	62	(C–36–15) 7 dcc–1
29	(C–29–11) 27 dad	63	(C–36–16) 5 aaa–1
30	(C–29–12) 9 cbd	64	(C–36–16) 15 cdd
31	(C–29–12) 36 cbb	65	(C–36–17 36 aad–1
32	(C–30–11) 22 ddc	66	(C–37–16) 4 bdc–1
33	(C–30–12) 9 add	67	(C–37–16) 4 bdd–1
34	(C–30–13) 8 caa	68	(C–37–17) 12 bdc–1

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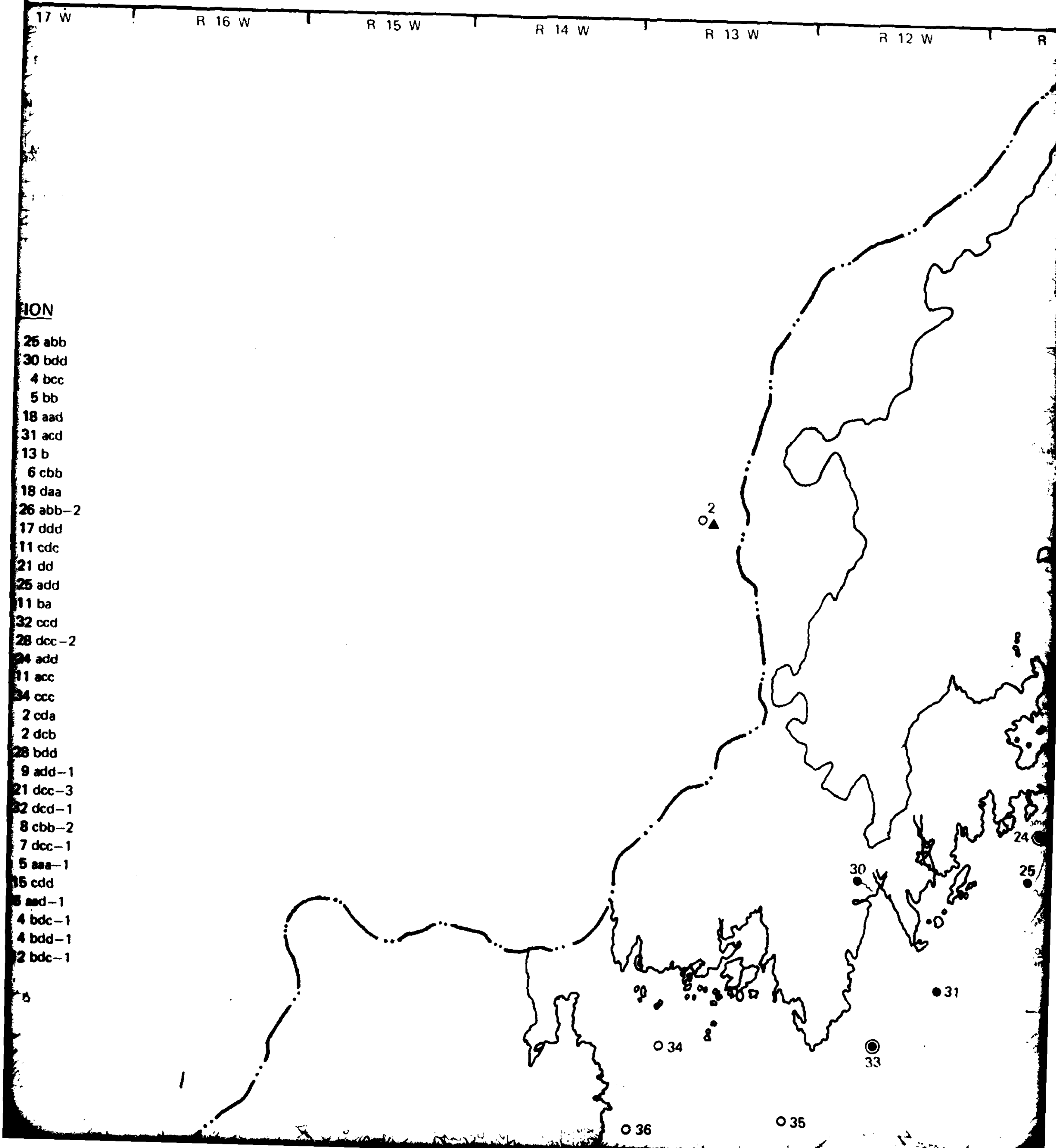
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32 ccd
28 dcc–2
24 add
11 acc
34 ccc
2 cda
2 dcb
28 bdd
9 add–1
21 dcc–3
32 dcd–1
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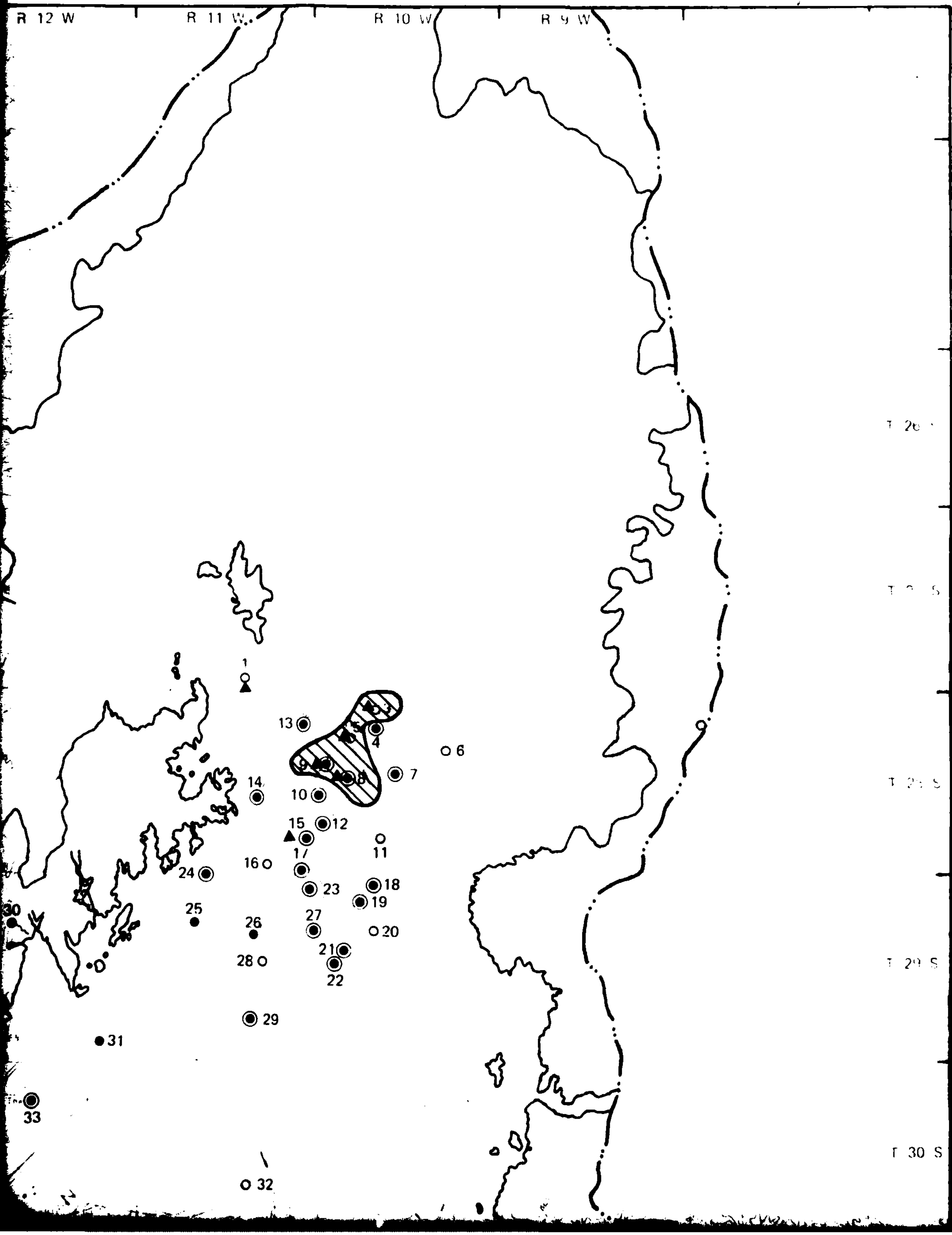

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32 . . . . (C–30–11) 22 ddc
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34 . . . . (C–30–13) 8 caa

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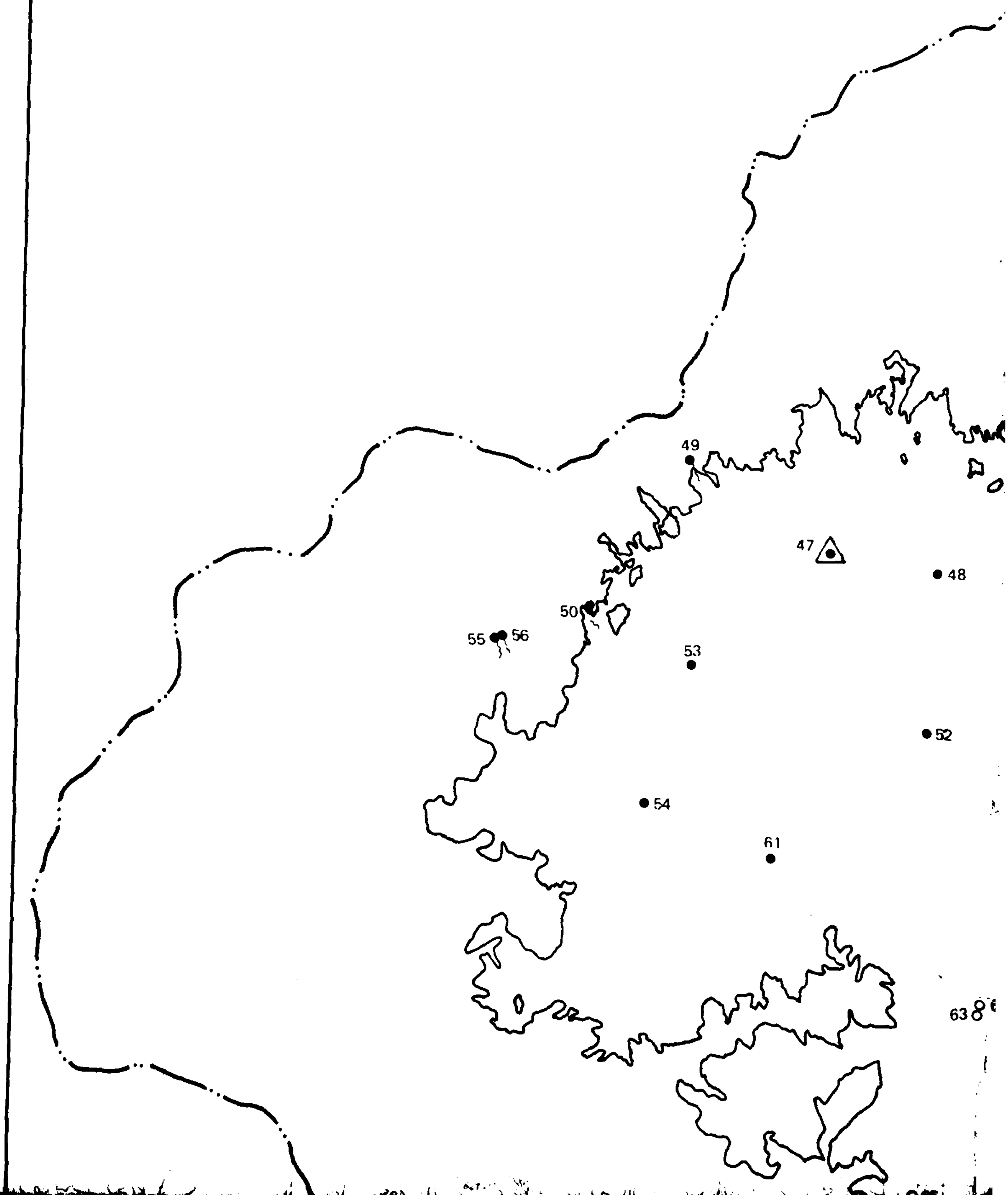

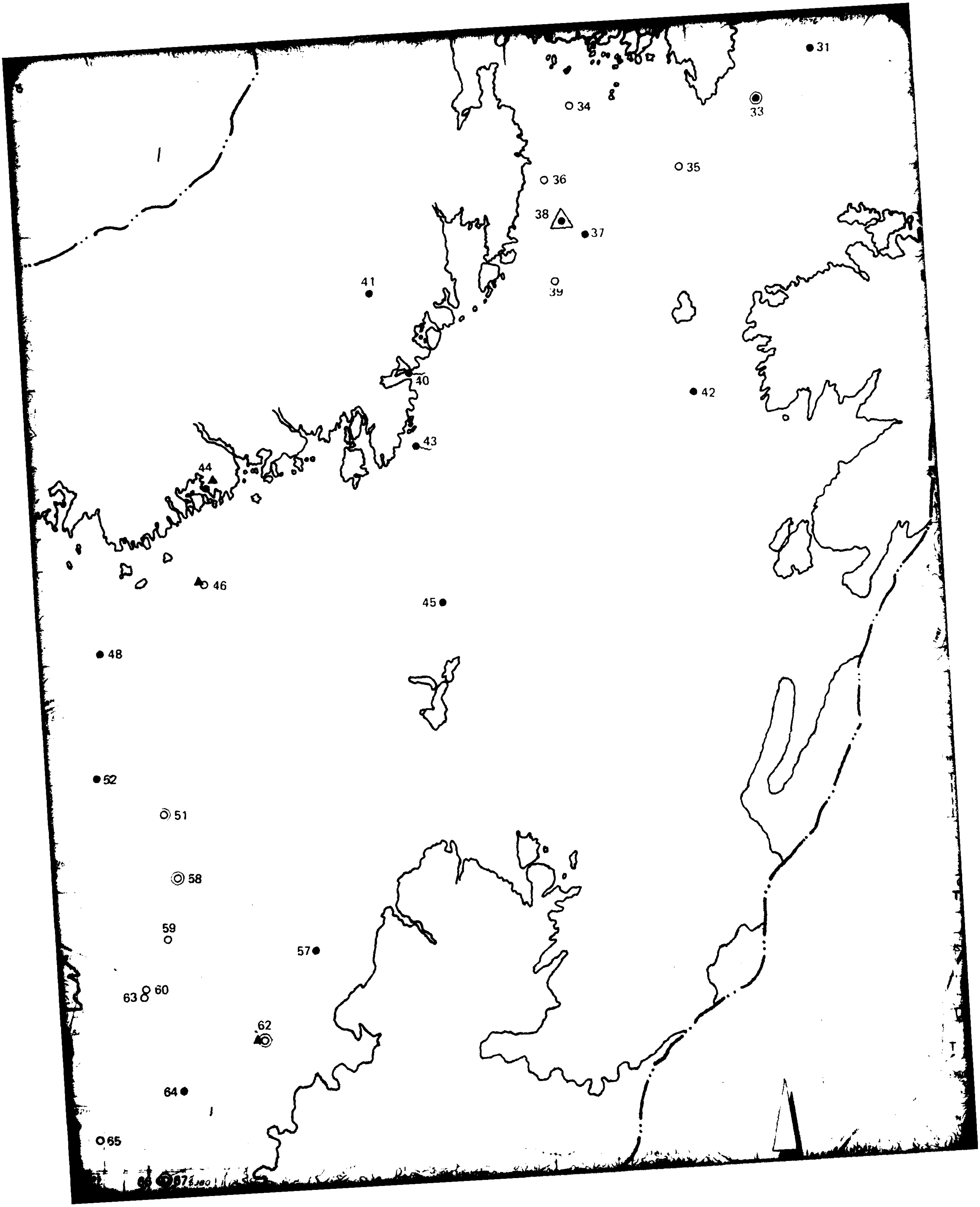
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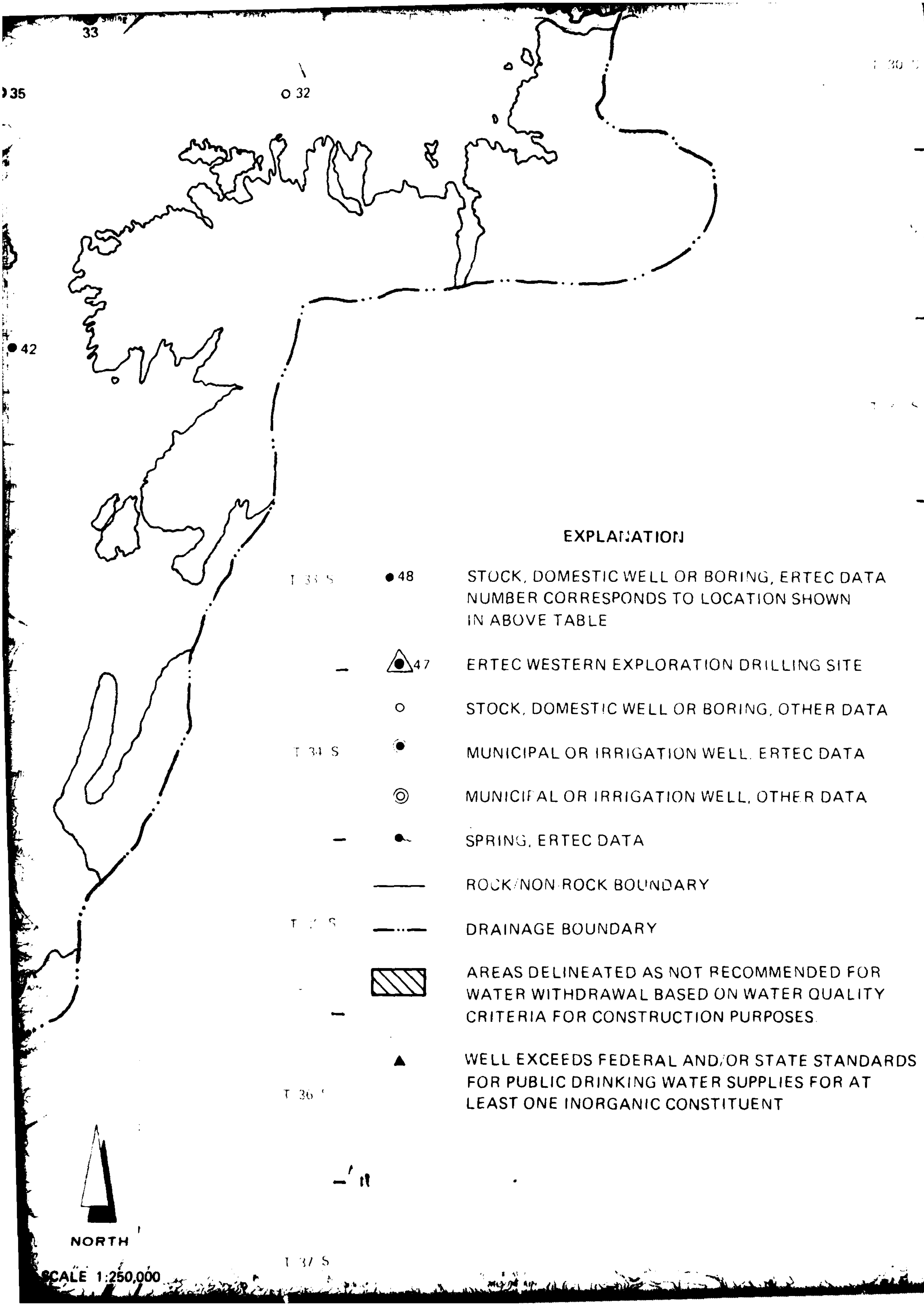
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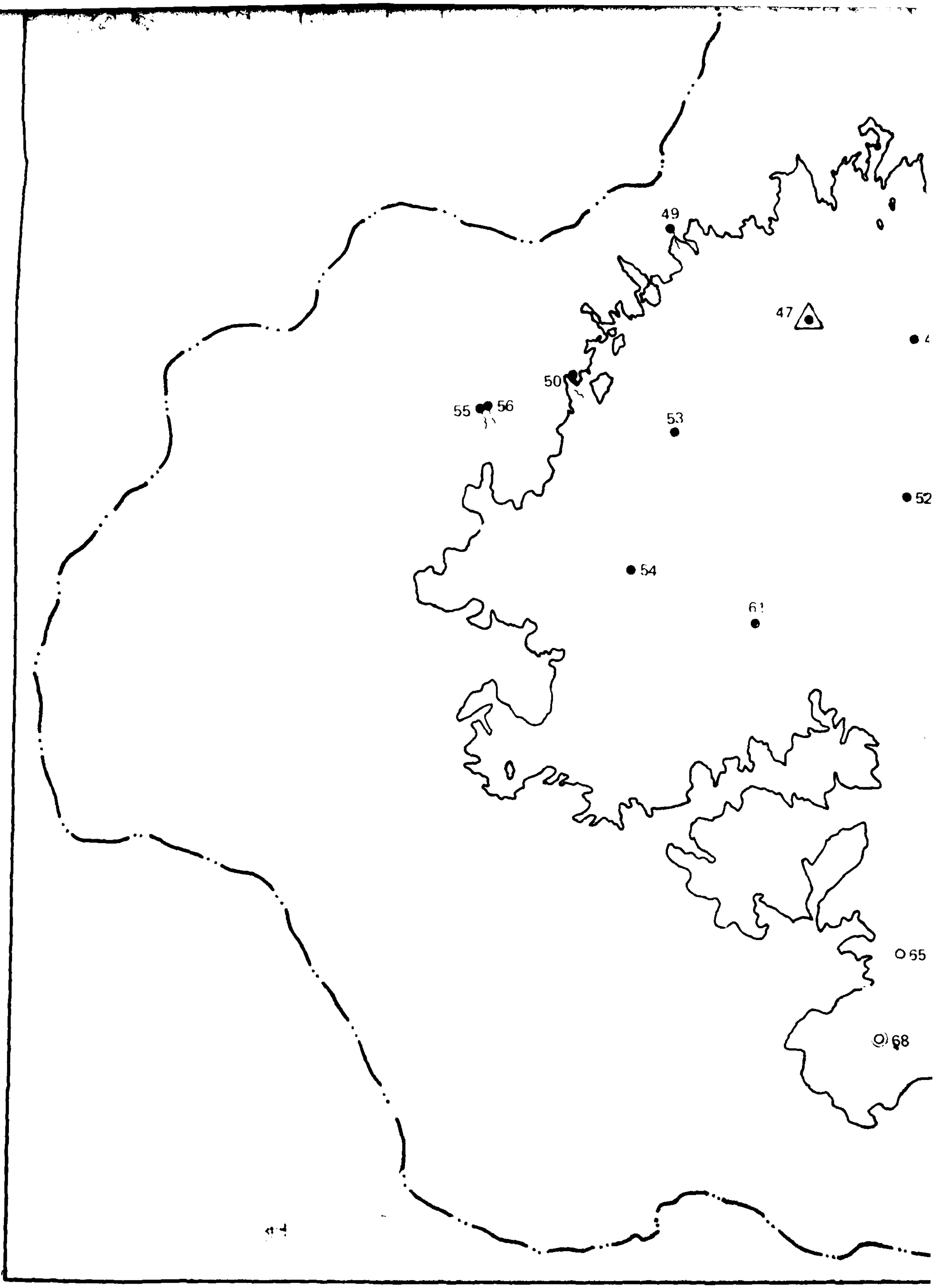
EXPLANATION
● 48 STOCK, DOMESTIC WELL OR BORING, ERTEC DATA NUMBER CORRESPONDS TO LOCATION SHOWN IN ABOVE TABLE
47 ERTEC WESTERN EXPLORATION DRILLING SITE
STOCK, DOMESTIC WELL OR BORING, OTHER DATA
MUNICIPAL OR IRRIGATION WELL, ERTEC DATA
MUNICIPAL OR IRRIGATION WELL, OTHER DATA
SPRING, ERTEC DATA
ROCK/NON-ROCK BOUNDARY
DRAINAGE BOUNDARY
AREAS DELINEATED AS NOT RECOMMENDED FOR WATER WITHDRAWAL BASED ON WATER QUALITY CRITERIA FOR CONSTRUCTION PURPOSES
WELL EXCEEDS FEDERAL AND/OR STATE STANDARDS FOR PUBLIC DRINKING WATER SUPPLIES FOR AT LEAST ONE INORGANIC CONSTITUENT
T 34 S
T 37 S
NORTH
SCALE 1:250,000



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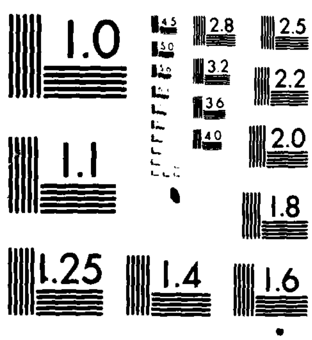

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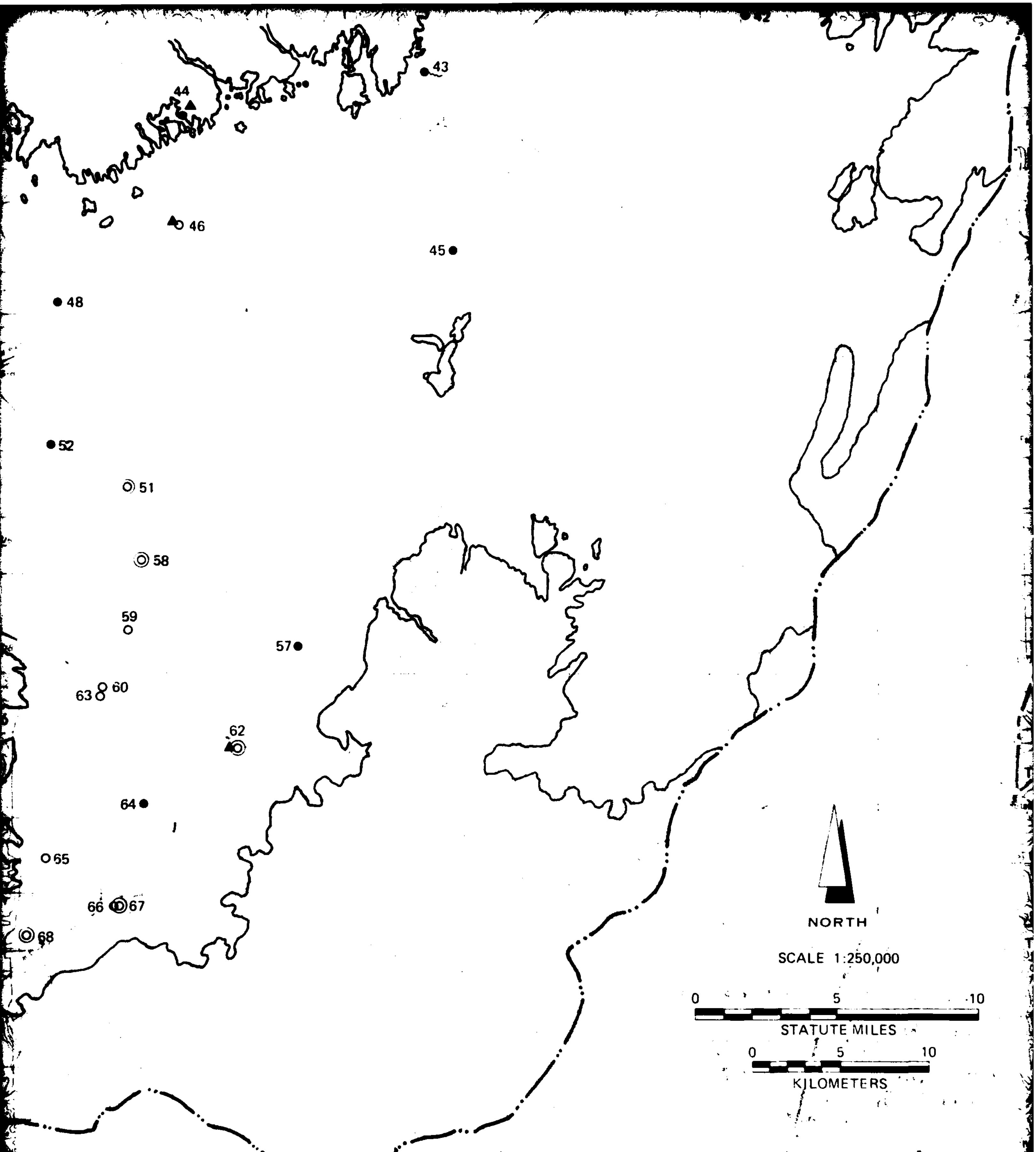
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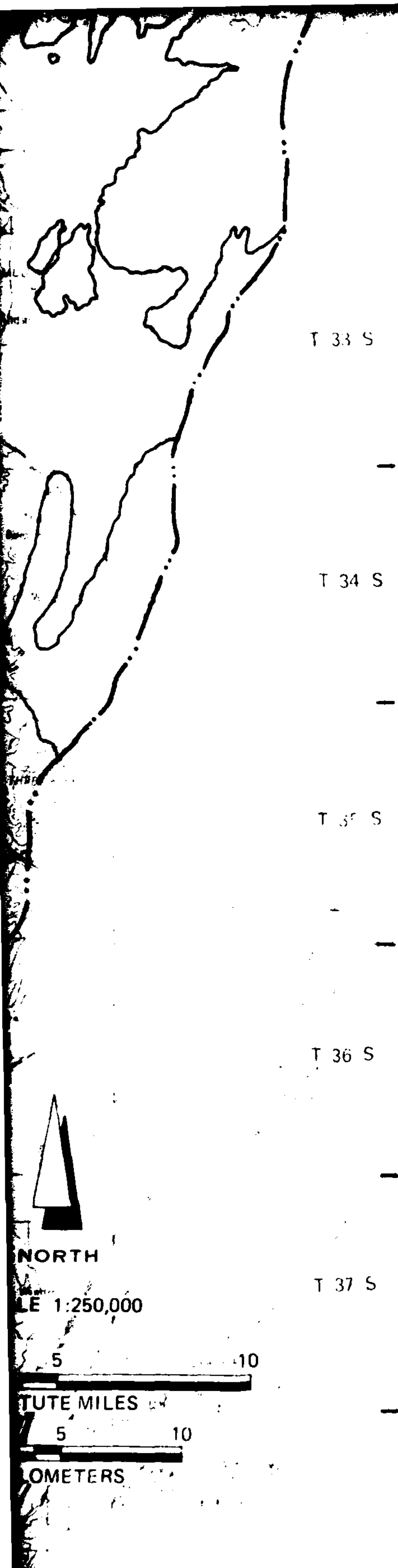

EXPLANATION

- 48 STOCK, DOMESTIC WELL OR BORING, ERTEC DATA NUMBER CORRESPONDS TO LOCATION SHOWN IN ABOVE TABLE
- 47 ERTEC WESTERN EXPLORATION DRILLING SITE
- STOCK, DOMESTIC WELL OR BORING, OTHER DATA
- MUNICIPAL OR IRRIGATION WELL, ERTEC DATA
- MUNICIPAL OR IRRIGATION WELL, OTHER DATA
- SPRING, ERTEC DATA
- ROCK/NON-ROCK BOUNDARY
- DRAINAGE BOUNDARY
- AREAS DELINEATED AS NOT RECOMMENDED FOR WATER WITHDRAWAL BASED ON WATER QUALITY CRITERIA FOR CONSTRUCTION PURPOSES.
- WELL EXCEEDS FEDERAL AND/OR STATE STANDARDS FOR PUBLIC DRINKING WATER SUPPLIES FOR AT LEAST ONE INORGANIC CONSTITUENT.

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WATER QUALITY MAP
ESCALANTE VALLEY -- UTAH

28 MAY 81

DRAWING 2

8

8.0 IMPACTS OF WATER DEVELOPMENT

Ground-water use in Escalante Valley presently exceeds estimates of the annual ground-water recharge. As a result, the Utah State Engineer's Office has declared the valley to be closed and will not allow new ground-water appropriations.

The peak year MX water demands for construction of a secondary OB site, as estimated by the U.S. Army Corp of Engineers, is 4198 acre-feet (5.2 hm^3). This is equal to 5.3 percent of the present ground-water use in the Beryl district and seven percent in the Milford district. Maximum anticipated water use for operations (2900 acre-ft/yr [3.6 hm^3/yr]) represents 3.7 percent of the present annual use in the Beryl district and 4.8 percent of the annual use in the Milford district. If Escalante Valley is selected as a primary OB site, the peak year water demands for construction, as estimated by the U.S. Army Corps of Engineers, is 9685 acre-feet (11.9 hm^3/yr). This is equal to 12.3 percent of the present ground-water use in the Beryl district and 16.1 percent in the Milford district. Maximum anticipated water demand for primary base site operational use (4200 acre-ft/yr [5.2 hm^3/yr]) represents 5.3 percent of present annual use in the Beryl district and seve [illegible] ent of the present use in the Milford district.

Construction is expected to begin in 1983 and be completed in 1990. The operation phase will begin after most of the construction has been completed, therefore, peak withdrawals will

occur only during the construction phase. Because no new appropriations of water will be allowed in Escalante Valley, this water will have to be purchased or leased from existing water-right owners. This will result in no new increase in ground-water withdrawals in the valley.

To provide the anticipated peak water demand for MX construction of a secondary OB site, approximately 1680 acres (680 ha) of irrigated land will have to be temporarily retired from present use. Approximately 3874 acres (1568 ha) of irrigated land would have to be temporarily retired from present use to provide water for construction of a primary OB site. These acreage retirement amounts would decrease to 1160 acres (470 ha) and 1680 acres (680 ha) for secondary and primary site long-term water use, respectively. These estimates are based on the State Engineer's guideline (2.5 acre-feet/acre) for retiring agricultural land and converting water rights to other uses.

The location of the points of withdrawal will have to be shifted to areas near the candidate OB sites. By shifting the demand for ground water from the heavily pumped areas of the valley to lightly pumped areas, a positive impact could result. A change in points of withdrawal would slow the decline of water levels in the heavily pumped parts of the Escalante Valley by spreading the effects of pumping over a larger area. This could also slow possible deterioration of the water quality in those areas where return flow to the aquifer leaches fertilizers and pesticides from the soil layers into the ground-water reservior.

Maintaining the existing rate and location of ground-water withdrawals for irrigation in Escalante Valley will continue to impact the ground-water system. Water quality will continue to change due principally to recirculation of ground water used for irrigation and the reversal of the potentiometric gradient in some places. Natural areas of ground-water discharge may be impacted and some phreatophyte vegetation may be eliminated which in turn could affect wildlife habitat and livestock grazing areas. Land subsidence due to withdrawal of ground water is already occurring in portions of the Escalante Valley and may become a problem in those areas where irrigation well fields are in close proximity to populated areas, highways, and railroads. Conversely, withdrawing ground water in those areas near the proposed OB sites would shift pumpage away from areas of heavy withdrawals. This would reduce the impacts on existing pumping centers.

The impact of development of ground-water supplies in the proposed OB areas in Escalante Valley depends both on the hydrologic conditions at the well sites and the method of development. Declines of the ground-water levels in neighboring wells may occur, however, the interference between wells is expected to be minimal. Computer simulations using a Trescott, Pinder, Larson two-dimensional finite difference model for aquifer simulation (1976) were performed to predict the long-term effects of MX withdrawls on the ground-water levels in the valley. The first simulation was run at a withdrawal rate of 2900 acre-ft/yr

(3.6 hm^3/yr) which is the anticipated operational water requirement for a secondary OB site in the valley. The second simulation maintained a withdrawal rate of approximately 4200 acre-ft/yr (5.2 hm^3/yr) as would be expected during operation of a primary OB site. Peak construction water demand, which is higher was not used in the early part of the simulation.

In the first simulation for a secondary OB withdrawal rate for each candidate OB area, six wells, spaced at distances ranging from 1 to 3 miles (2 to 5 km), were pumped at a rate of 300 gpm (19 l/s) for the anticipated 30 year life of the system. Transmissivities used in the simulation ranged from 6000 to 21,000 ft^2/day (556 to 1945 m^2/day) at the Beryl well field site and 4500 to 10,500 ft^2/day (417 to 973 m^2/day) in the vicinity of the Milford site. A storage coefficient of 0.2 and 0.1 was assumed for the Beryl and Milford sites respectively.

At the end of the 30 year pumping period, a drawdown of 5 feet (2 m) occurred one-half mile (1 km) from the Beryl well field site and at a distance of 6 miles (10 km), the simulated drawdown was less than 1 foot (0.3 m). At the Milford site a drawdown of 5 feet (2 m) occurred 2 miles (3 km) from the well field and at 8 miles (13 km) the drawdown was less than 1 foot (0.3 m).

A second simulation maintained a withdrawal rate of 4200 acre-ft/yr (5.2 hm^3/yr) with six wells at each location pumping at 440 gpm (28 l/s) for the 30-year period. At the Beryl site,

5 feet (2 m) of drawdown occurred 3 miles (5 km) from the well field and at 8 miles (13 km) the drawdown was less than 1 foot (0.3 m). At the Milford site a drawdown of 5 feet (2 m) occurred 5 miles (8 km) from the well field and at 10 miles (16 km) the drawdown was less than 1 foot (0.3 m).

These simulated drawdowns can be considered a worse case situation but are useful in assessing the approximate impacts which would likely occur from the proposed withdrawals. A more selective and exacting well field would reduce expected drawdowns.

The transmissivity ranges used in the above simulations are based on the results of aquifer tests conducted by Ertec in December 1980 and January 1981 and specific capacity data found in the literature. The values in the Milford area are within the range reported by Mower and Cordova (1974) from their study of that area. The storage coefficients are also within the range estimated by Mower and Cordova (1974) based on a neutron radiation method of analysis of borehole samples. These storage coefficients are indicative of an unconfined aquifer and support other geologic evidence which suggests that along the margins of the valley where proposed OB wells would be located there is a lack of fine-grained lacustrine and fine-grained alluvial fan materials. Fine-grained sediments occur commonly near the axis of the valley with coarser sediments predominately at the margins. Indications are that the aquifer is confined along the axis and is probably unconfined or locally semi-confined near the margins of the valley.

There would be no impact due to pumping of proposed MX wells on springs because most of the existing springs in the Escalante Valley drainage basin are in the mountains and hills and meteoric in origin. Based on available information, there is no proven hydraulic connection between the valley-fill aquifer and the source-waters for the limited hot spring activity in the valley.

9.0 FUTURE DEVELOPMENT

9.1 POTENTIAL FOR SURFACE-WATER DEVELOPMENT

There are four important surface-water sources in Escalante Valley. Of these, only Meadow Creek is unregulated and has an undependable supply. The other three streams are fully controlled with reserviors retaining surface flows for distribution to present water-right holders. The total certificates and proofs for the Beaver River water that enters the Milford district through Rocky Ford Dam currently exceed the average annual discharge through the dam. The water in the other three streams is also fully appropriated, therefore, no further appropriations or no new developments of surface water can be made from them. Because all regulated surface flows are located a considerable distance from the proposed OB sites, the purchase or lease of surface-water rights is not considered a practical alternative for obtaining a water supply for MX needs.

There are no springs in the Escalante Valley drainage basin that are available for appropriation. None of the springs in the basin flow in sufficient quantities for them to be considered a viable source for the MX Operational Base.

9.2 POTENTIAL FOR GROUND-WATER DEVELOPMENT

Any ground-water development in Escalante Valley for MX purposes will have to be accomplished through the purchase or lease of existing ground-water rights. To provide a secondary MX Operational Base water supply, it will be necessary to retire approximately 1680 acres (680 ha) of irrigated land and shift pumping

well(s) to those areas found to be favorable for MX needs. For a primary site, approximately 3874 acres (1568 ha) of irrigated land would have to be retired during the construction phase only. Aquifer tests performed at the probable OB siting areas indicate the valley-fill aquifer is capable of yielding water in sufficient quantities, of acceptable quality, and at rates needed to meet estimated MX requirements.

Another potential source of water supply in the Beryl district is water being discharged during the dewatering of a mine at the Escalante Silver Mine property. The water is being pumped from fractured volcanic rock which is assumed but not proven to be hydraulically connected to the valley-fill aquifer. If the systems are hydraulically linked the discharge, water does not constitute an independent source of supply.

Discharge from dewatering is piped to North Canal and Shoal Creek and is available for agricultural and other uses. Mining, including dewatering at rates between 31,800 to 61,200 acre-ft/yr (39.2 to 75.5 hm^3/yr), is projected to continue until about 1992-95 (Dames and Moore, 1979). Approximately 4300 acre-ft/yr (5.3 hm^3/yr) is diverted into North Canal with the remainder released into Shoal Creek. It is expected that all of the flow in Shoal Creek will infiltrate into the valley fill within 5 miles (8 km) of its release point. Approximately 52 percent of the annual flow in North Canal is expected to infiltrate along its 12 mile (19 km) length with the remainder ponding at the end point approximately 6 miles (10 km) southeast of the town of Beryl (Dames and Moore, 1979).

10.0 REFERENCES

Abou-Zied, S. and Whelan, J. A., 1973, Geology and mineralogy of the Milford Flat Quadrangle, Star District, Beaver County, Utah, Special Study 46.

Bagley, J. M., Jeppson, R. W., and Milligan, C. H., 1964, Water yields in Utah, developing a state water plan, Special Report 18, Utah State University and Utah Water and Power Board.

Beryl-Enterprise District Water Commissioner, 1979, Summary of water rights in Beryl-Enterprise area, unpublished.

Clark, T. H. and Stearn, C. W., 1968, Geological evolution of North America, Second Edition, The Ronald Press Company, New York.

Cook, E. F., 1957, Geology of the Pine Valley Mountains, Utah, Utah Geological and Mineralogical Survey Bulletin 58.

Dames and Moore, 1979, "Review of hydrologic conditions, Escalante Silver Property," for Ranchers Exploration and Development Corporation, Addendum No. 1.

Desert Research Institute, 1980, Water rights in Nevada and Utah: an inventory within the MX area.

Eakin, T. E., Price, D., and Harrill, J. R., 1976. Summary appraisals of the nation's ground-water resources-Great Basin Region, U. S. Geological Survey Professional Paper 813-G.

Ertec, 1980, MX siting investigation water rights inventory, Nevada-Utah.

Ertec Northwest, Inc., 1980, Environmental assessment for aquifer studies at ten locations in the Beryl, Milford, and Delta areas, Utah.

Fenneman, N. M., 1931, Physiography of the western United States: New York, McGraw Hill Book Company.

Fix, P. F., Nelson, W. B., Lofgren, B. E., and Butler, R. G., 1950, Groundwater in the Escalante Valley, Beaver, Iron, and Washington counties, Utah, Technical Publication No. 6.

Gregory, H. E., 1950, Geology of eastern Iron County, Utah, U. S. Geological Survey Bulletin No. 37.

Hem, J. D., 1970, Study and interpretation of the chemical characteristics of natural water, U. S. Geological Survey Water Supply Paper 1473.

Hintze, L. F., 1979, Geologic history of Utah.

Lemmon, D. M. and Morris, H. T., 1979. Preliminary geologic map of the Milford Quadrangle, Beaver County, Utah, U. S. Geological Survey Open File Report 79-1471.

Mackin, J. H. 1954, Geology and iron ore deposits of the Granite Mountain area, Iron County, Utah, U. S. Geological Survey Mineral Investigations MF-14.

Maxey, G. B. and Eakin, T. E., 1949, Ground water in White River Valley, White Pine, Nye, and Lincoln counties, Nevada, Nevada State Engineer Water Resources Bulletin No. 8.

McCoy, W. J., 1975, "Mixing and curing water for concrete." American Society for Testing and Materials Special Technical Publication No. 169-A., Philadelphia, Pennsylvania.

Milford District Water Commissioner, 1979, Summary of irrigation rights and pumpage in Milford, unpublished.

Mower, R. W., and Cordova, R. M., 1974, Water resources of the Milford area, Utah, with emphasis on ground water, U. S. Geological Survey Technical Publication No. 43.

Mower, R. W., 1981, Ground-water data for the Beryl-Enterprise area, Escalante Desert, Utah. U.S. Geological Survey, Utah Hydrological Data Report No. 35, Open-File Report 81-340.

Petersen, C. A., 1975, Geology of the Roosevelt Hot Springs area, Beaver County, Utah in Utah Geology, v. 2 No. 2.

Piper, A.M., 1944, A graphic procedure in the geochemical interpretation of water analysis; American Geophysical Union Transactions 25th Annual Meeting, Part 6.

Portland Cement Association, 1966, "Mixing water for concrete," Portland Cement Association Pamphlet.

Price, D., Eakin, T. E., and others, 1974, Water in the Great Basin Region; Idaho, Nevada, Utah, and Wyoming, U. S. Geological Survey Hydrologic Investigations Atlas HA-487.

Ralph M. Parsons Company, 1979, MX verifiable horizontal MPS facility subsystem, v. 1.

Rowley, P. D., 1978, Geologic map of the Thermo 15-Minute Quadrangle, Beaver and Iron counties, Utah, U. S. Geological Survey Map GQ-1493.

Sandberg, G. W., 1966, Ground-water resources of selected basins in southwestern Utah, Utah State Engineer Technical Publication No. 13.

Thomas, H. E., and Taylor, G. H., 1946, Geology and ground-water resources of Cedar City and Parowan valleys, Iron County, Utah, U. S. Geological Survey Water Supply Paper No. 993.

Thomas, H. E., Nelson, W. B., Lofgren, B. E., and Butler, R. G., 1952, Status of development of selected ground-water basins in Utah, U. S. Geological Survey Technical Publication No. 7.

Tooker, E. W., and Morris, H. T., 1978, Map of western Utah showing mineral resource potential for rare II areas, U. S. Geological Survey Open File Map 78-866.

Trescott, P. C., Pinder, G. F., and Larson, S. P., 1976, Techniques of water-resources investigations of the U. S. Geological Survey Book 7, Chapter C-1.

U. S. Environmental Protection Agency, 1976a. National interim primary drinking water regulations, EPA-570/9-76-003.

__________, 1976b, Quality criteria for water.

U. S. Geological Survey, 1976, Water resources data for Utah, Water Year 1975, U. S. Geological Survey Water Data Report, UT-75-1.

__________, 1978, Water resources data for Utah, Water Year 1977, U. S. Geological Survey Water Data Report, UT-77-1.

__________, 1979, computer printout, Water Data for Utah.

__________, 1979, Water resources data for Utah, Water Year 1978, U. S. Geological Survey Water Data Report, UT-78-1.

__________, 1980, Water resources data for Utah, Water Year 1979, U. S. Geological Survey Water Data Report, UT-79-1.

U. S. Geological Survey, 1980, Ground-water conditions in Utah, Spring of 1980, Cooperative Investigations Report Number 19.

Utah Geological Association, 1973, Geology of the Milford Area 1973, Publication 3.

Utah State Division of Environmental Health, 1980, State of Utah public drinking water regulations Part 1, Section 3.

Utah State University and Utah Water and Power Board, 1963, Developing a state water plan-Utah's water resources.

Waite, H. A., Nelson, W. B., Lofgren, R. E., Barnell, R. L., and Butler, R. G., 1954, "Status of ground-water development in four irrigation districts in southwestern Utah," in Progress Report on selected ground-water basins in Utah, U. S. Geological Survey Technical Publication No. 9.

White, W. N., 1932, A method of estimating ground-water supplies based on discharge by plants and evaporation from soil, U. S. Geological Survey Water-Supply Paper No. 659.

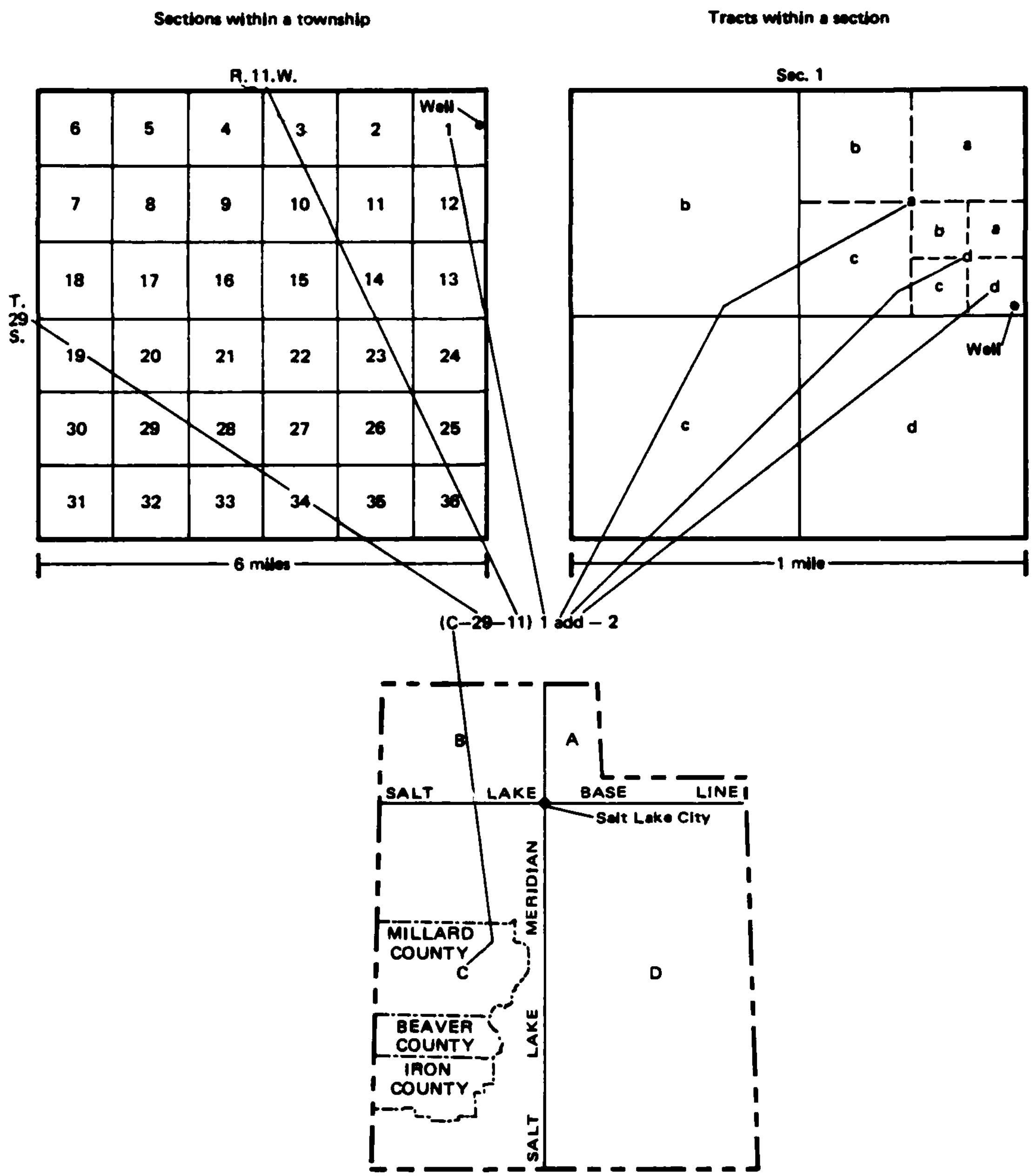
Wilson, L., Olson, M. E., Hutchins, T. B., Southard, A. R., and Erickson, A. J., 1975, Soils of Utah, Agricultural Experiment Station Bulletin 492.

APPENDIX A

WELL AND SPRING NUMBERING SYSTEM

WELL AND SPRING NUMBERING SYSTEM

The system of numbering wells and springs in Utah is based on the cadastral land-survey system of the U. S. Government. The number, in addition to designating the well or spring, describes its position on the land net. By the land-survey system, the state is divided into four quadrants by the Salt Lake baseline and meridian, and these quadrants are designated by the upper-case letters A, B, C, and D indicating the northeast, northwest, southwest, and southeast quadrants, respectively. Numbers designating the township and range (in that order) follow the quadrant letter, and all three are enclosed in parentheses. The number after the parentheses indicates the section and is followed by three letters indicating the quarter section, the quarter-quarter section, and the quarter-quarter-quarter section. Figure A-1 is a graphical illustration of this system. Although the basic land unit, the section, is theoretically a 1 mile (2 km) square, many sections are irregular. Such sections are subdivided into 10-acre (4-ha) tracts, generally beginning at the southeast corner, and the surplus or shortage is taken up in the tracts along the north and west sides of the section. The letters a, b, c, and d indicate, respectively, the northeast, northwest, southwest, and southeast quarters of each subdivision. The number after the letters is the serial number of the well or spring within the 10-acre (4-ha) tract.



Source: Mower and Cordova, 1974

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WELL AND SPRING - NUMBERING SYSTEM USED IN UTAH

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FIGURE A-1

APPENDIX B

RECORDS OF WELLS

WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. – yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-28-11) 23abb2	So. Milford	1968	118	6	4988	11-80	44	4944	1,3	
(C-28-11) 26dcb	Cook	1928	20	16	4976	11-80	25	4951	1,2	
(C-28-11) 35cad	Cook	-	-	-	4981	11-80	26	4953	1,3	abandoned
(C-29-11) 10ddd	Cook	1957	103	6	5007	11-80	40	4967	1,3	W.Q.
(C-29-11) 11ddd	Cook	1961	155	8	5018	11-80	52	4966	1,3	
(C-29-12) 31baa	BLM	-	-	6	5440	11-80	169	5271	1,2	
(C-29-12) 35cc	U.S Air Force	1981	160	2	5105	2-81	105	5000	1	
(C-29-12) 36cbb	BLM	-	-	8	5110	11-80	108	5002	1,3	W.Q.
(C-30-10) 17add	Minersville	-	74	4	5160	11-80	Dry	-	1,2	
(C-30-11) 9cdd	Nelson & Gates	-	-	-	5044	11-80	49	4995	1,2	
(C-30-11) 22ddc	BLM	1935	165	6	5124	11-80	Dry	-	1,2	Dry @115'
(C-30-12) 3dda	Posik	1935	-	6	5061	11-80	57	5004	1,3	
(C-30-12) 9add	Larsen	1940	50	10	5065	11-80	42	5023	1,3	
(C-30-12) 13bcb	Minersville	-	43	2	5023	11-80	Dry	-	1,3	destroyed
(C-30-13) 8dc	U.S. Air Force	1981	100	2	5255(e)	2-81	Dry	-	1	
(C-30-13) 11aa	U.S. Air Force	1981	51	2	5310(e)	2-81	Dry	-	1	
(C-30-13) 14bcc	Cook	-	-	6	5189	11-80	151	5038	1,3	
(C-30-13) 21ddd	Guymon	-	74	7	5123	11-80	Dry	-	1,2	
(C-30-13) 23cdd	Cook	1913	75	17	5094	11-80	54	5040	1,3	

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WELLS MEASURED BY
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TABLE B-1

WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. – yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-30-13) 33abb	Cook	1913	90	12	5091	11-80	54	5037	1,3	
(C-30-13) 34bba	Cook	1916	144	12	5086	11-80	44	5042	1,2	
(C-31-12) 4ddd	Nada	1950	132	6	5140	11-80	107	5033	1,3	
(C-31-12) 17dcb	Bonner	–	49	48	5094	11-80	46	5048	1,3	
(C-31-13) 1dbb	Stephenson	1928	114	12	5071	11-80	29	5042	1,3	abandoned
(C-31-13) 4bcc	Beehive	1931	94	12	5072	11-80	29	5043	1,3	
(C-31-13) 6adc	Beehive	1915	84	8	5105	11-80	51	5054	1,3	
(C-31-13) 18aad	Beehive	1961	101	6	5117	11-80	69	5048	1,3	
(C-31-14) 9bdb	BLM	–	–	8	5504	11-80	37	5467	1,2	
(C-32-13) 14aad	BLM	–	132	6	5130	11-80	63	5067	1,2	
(C-32-13) 27bdd	Bulloch	1968	171	6	5138	11-80	62	5076	1,2	
(C-32-14) 5bd	U.S. Air Force	1981	101	2	5160(e)	2-81	91	5069	1	
(C-32-14) 10da	U.S. Air Force	1981	160	2	5077(e)	2-81	8	5069	1	
(C-32-15) 31cdc	U.S. Air Force	1981	101	2	5350(e)	2-81	Dry		1	
(C-32-16) 27abb	Reber	–	48	54	5670	11-80	20	5650	1,2	
(C-32-16) 28dba	Matheson	1915	–	48	5675	11-80	7	5668	1,2	

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WELLS MEASURED BY
ERTEC WESTERN
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TABLE B-1

WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. – yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-32-16) 33cba	Reber	1968	34	8	5570	11-80	6	5564	1,2	
(C-33-12) 11aaa	BLM	-	90	8	5282	11-80	37	5245	1,2	
(C-33-12) 14ddb	Milne	1965	136	6	5296	11-80	50	5246	1,2	
(C-33-12) 21aad	Murie	1967	252	6	5328	11-80	93	5235	1,2	
(C-33-12) 21bbb	BLM	1918	136	3	5288	11-80	126	5162	1,2	
(C-33-13) 3caa	Schoppman	1918	168	6	5147	11-80	66	5081	1,2	
(C-33-14) 17ddd	BLM	1945	-	6	5110	11-80	21	5089	1,2	W.Q.
(C-33-14) 20ccb	Jones	-	-	6	5102	11-80	10	5092	1,2	
(C-33-14) 36ddb	Jones	1924	160	6	5166	12-80	69	5097	1,2	
(C-33-15) 7ccc	LDS Church	1953	200	8	5241	11-80	128	5113	1,2	
(C-33-15) 12ddd	Steele	1976	15	2	5112	11-80	13	5099	1,2	
(C-33-16) 10ccc	Cal. Home	1976	208	8	5227	11-80	96	5131	1,2	
(C-33-16) 11cdc	Lehi Wood	1915	119	6	5214	11-80	105	5109	1,2	W.Q.
(C-33-16) 26aba	Tucker	1975	154	4	5168	11-80	57	5111	1,2	
(C-33-16) 30aac	Mackelprang	1949	150	14	5200	11-80	67	5133	1,2	
(C-33-17) 11cbc	U.S. Air Force	1981	160	2	5460(e)	2-81	Dry	-	1	
(C-33-17) 20cbb	Hart	1951	230	8	5355	12-80	186	5169	1,2	
(C-33-17) 21dda	U.S. Air Force	1981	162	2	5330(e)	2-81	Dry	-	1	
(C-33-17) 25add	Larsen	1967	150	8	5195	11-80	64	5131	1,2	W.Q.
(C-33-17) 24dda	Mackelprang	1925	95	42	5233	11-80	Dry	-	1,2	

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. - yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-33-17) 26dcd	Hart	1915	86	7	5208	12-80	78	5130	1,2	W.Q.
(C-33-17) 31baa	Hart	1900	110	-	5300	12-80	Dry	-	1,2	Well destroyed
(C-33-18) 25aaa	U.S. Air Force	1981	101	2	5400(e)	2-81	Dry	-	1	
(C-34-13) 8abd	-	1977	242	8	5211	12-80	81	5130	1,2	
(C-34-14) 2cbd	Jones	1977	149	6	5167	12-80	59	5108	1,2	
(C-34-14) 29acb	Utah State	1976	39	2	5141	12-80	33	5108	1,2	
(C-34-15) 16ccc	McGarry	1939	-	14	5117	12-80	18	5099	1,2	
(C-34-16) 17acd	Zeller	1914	20	10	5129	12-80	Dry	-	1,2	Well abandoned
(C-34-16) 22bad	McCulloch	1976	-	8	5127	12-80	27	5100	1,2	
(C-34-17) 1aba	McGarry	1922	100	12	5163	12-80	34	5129	1,2	
(C-34-17) 5ccb	Holt	1915	150	-	5199	12-80	66	5133	1,2	W.Q.
(C-34-17) 9ddd	Prout	1924	100	8	5167	12-80	40	5127	1,2	
(C-34-17) 24add	Thomas	1974	180	8	5140	12-80	32	5108	1,2	W.Q.
(C-34-17) 31bca	Holt	1980	-	15	5195(e)	12-80	94	5101	1	
(C-34-17) 32bbd	Holt	1980	-	15	5230(e)	12-80	84	5146	1	
(C-34-18) 11acc	Holt	1978	225	8	5275	12-80	145	5130	1,2	W.Q.
(C-34-18) 32ccd	-	1980	312	8	5390(e)	12-80	254	5136	1	

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. – yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-34-18) 34ccc	Thorley	1959	207	6	5331	12-80	196	5135	1,2	W.Q.
(C-35-13) 4aaa	Hunter	1940	250	8	5326	12-80	186	5140	1,2	
(C-35-15) 20bcd	BLM	-	162	12	5159	12-80	56	5103	1,2	
(C-35-15) 28bdc	Evan	1955	264	16	5174	12-80	75	5099	1,2	W.Q.
(C-35-16) 6dbc	Buhl	1955	208	16	5151	12-80	56	5095	1,2	
(C-35-16) 9dac	Woods	-	-	-	5152	12-80	62	5090	1,2	
(C-35-16) 17aba	Hunt	1944	-	6	5151	12-80	61	5090	1,2	
(C-35-17) 7dbd	Woods	-	-	16	5260	12-80	110	5150	1	
(C-35-18) 31adc	Sanders	1972	420	6	5419	12-80	276	5143	1,2	
(C-36-16) 6L8	Holt	1959	299	16	5191	12-80	102	5089	1,2	
(C-36-16) 6cbc	Holt	1951	270	16	5210	12-80	120	5090	1,2	
(C-36-16) 17dbb	Humphries	1948	404	16	5210	12-80	121	5089	1,2	
(C-36-16) 22baa	Jones	1948	200	10	5214	12-80	Dry	-	1,2	dry @64'
(C-36-17) 1ccc	BLM	1974	170	8	5219	12-80	122	5097	1,2	

1 - Wells measured by Ertec-1980.
2 - Data from USGS, 1979.
3 - Mower and Cordova, 1974.
(e) - Estimated
W.Q.- Water quality sample obtained by Ertec, 1980.

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(C-27-10) 5CBC	PEARSON	1920	60	16	4922				USGS 1980	
(C-27-10) 5?AC	EPHRAIM	1970	100	8	4918	09 1970	0 1	4917	MOWER & CORDOVA 1974	
(C-27-10) 7ACD		1925		8	4928				USGS 1980	DESTROYED
(C-27-10)10BBC	HANSON				4978	06 1970			USGS 1980	DESTROYED
(C-27-10)12DDD	PHILIPS								USGS 1980	
(C-27-10)16ADC	HANSON				5005	05 1927	87 0	4918	USGS 1980	DESTROYED
(C-27-10)17BBC	BLM	1934	28	18	4935				USGS 1980	
(C-27-10)17CBD	CANNON				4920	10 1926	5 0	4715	USGS 1980	DESTROYED
(C-27-10)18?BA	CANNON	1941	74	14	4945	09 1972	14 0	4931	MOWER & CORDOVA 1974	
(C-27-10)21ABB	BLM	1962	116	8	4992	12 1962	56 0	4936	MOWER & CORDOVA 1974	DESTROYED
(C-27-10)27AAA	BLM	1972	857	6	5094	06 1972	126 0	4968	MOWER & CORDOVA 1974	
(C-27-10)29ACC	SULLIVAN	1917	241	4	4939	09 1970	2 0	4937	MOWER & CORDOVA 1974	
(C-27-10)31DAA	MILFORD	1940	391	6	5031	10 1979	97 0	4934	MOWER & CORDOVA 1974	
(C-27-10)31DCB	SULLIVAN	1956	700	14	5040	10 1971	83 0	4952	MOWER & CORDOVA 1974	
(C-27-10)32AAA	SULLIVAN				4942	05 1927	1 0	494.	USGS 1980	DESTROYED
(C-27-10)32DCC	SULLIVAN	1925		8	4965	05 1927	18 0	4947	USGS 1980	DESTROYED
(C-27-10)32DDD	SULLIVAN	1925		8	4947	05 1927	2 0	4945	USGS 1980	DESTROYED
(C-27-10)33?BC	HANSON	1902	110	2	4945				USGS 1980	DESTROYED
(C-27-10)34DAD	HANSON		178	3	5130	06 1953	156 0	4974	MOWER & CORDOVA 1974	
(C-27-10)6ACC		1928			4917					
(C-27-11)22?CD	BLM	1957	275	8	5152	05 1957	204 0	4948	MOWER & CORDOVA 1974	
(C-27-11)2?CCC	BLM	1971	665	6	5310	07 1971	370 0	4940	MOWER & CORDOVA 1974	
(C-27-11)34DAB	ESSEX	1947	900	16	5235		274 0	4961	MOWER & CORDOVA 1974	
(C-27-11)34D?A	ESSEX	1967	593	10	5248	1967	295 0	4953	MOWER & CORDOVA 1974	
(C-27-12)2??AB	BLM	1934	336	8	5635	1934	141 0	5494	MOWER & CORDOVA 1974	
(C-27-13) ?ABA	ROSARIO	1905			5780				USGS 1980	DESTROYED
(C-27-13)13?BD	TINIC	1879			6520				USGS 1980	DESTROYED
(C-27-14)27ABD	USGS 1980	1948	282		5020				USGS 1980	DESTROYED
(C-28-10) 4?CD		1925			5058	05 1927	100 0	4958	USGS 1980	DESTROYED
(C-28-10) 5?DC	SULLIVAN		360	6	4947	09 1970	10 0	4937	MOWER & CORDOVA 1974	
(C-28-10) 5?AB	SULLIVAN	1917	400	2	4958				USGS 1980	DESTROYED
(C-28-10) 5?DC3	SULLIVAN	1964	146	16	4951	1964	4 0	4947	MOWER & CORDOVA 1974	
(C-28-10) 5?AD	BURNS	1965	130	6	4953	1968	15 0	4938	MOWER & CORDOVA 1974	
(C-28-10) 6?BB	SULLIVAN	1936	354	12	5032	10 1936	75 0	4957	USGS 1980	DESTROYED
(C-28-10) 6?BC		1918	90		5035				USGS 1980	DESTROYED
(C-28-10) 6?DB	BEARD	1910	75	42	5025				USGS 1980	DESTROYED
(C-28-10) 6DAC1	MILFORD	1947	173	12	5001	1971	62 0	4939	MOWER & CORDOVA 1974	
(C-28-10) 6DAC2	MILFORD	1971	439	12	5001	1971	64 0	4937	MOWER & CORDOVA 1974	
(C-28-10) 6?DC	BEAVER SCHOOL	1915	267	6	5008				USGS 1980	
(C-28-10) 7AAC2	MILFORD	1960	589	16	4970	1960	18 0	4952	MOWER & CORDOVA 1974	
(C-28-10) 7AAD1	MILFORD	1913	478	12	4958				USGS 1980	DESTROYED
(C-28-10) 7AAD2	MILFORD	1921	468	10	4957	02 1952	58 0	4899	USGS 1980	
(C-28-10) 7AAD5	MILFORD	1951	467	16	4958	02 1952	24 0	4934	USGS 1980	
(C-28-10) 7ABB	MILFORD	1930	153	6	5018	04 1940	65 0	4953	USGS 1980	
(C-28-10) 7ADB	MILFORD	1947	533	14	4970	12 1955	50 0	4720	USGS 1980	
(C-28-10) 7BBB	KIRK	1947	464	16	5042	04 1957	88 0	4954	USGS 1980	DESTROYED
(C-28-10) 7CCC	UNION PACIFIC	1932	144	6	4995				USGS 1980	DESTROYED
(C-28-10) 7DAA	DAVIE	1949	79	4	4960				USGS 1980	
(C-28-10) 7DAB	UNION PACIFIC	1909	555	12	4961				MOWER & CORDOVA 1974	
(C-28-10) 8?AD	SULLIVAN	1967	185	16	4962	03 1976	17 0	4945	USGS 1980	
(C-28-10) 8?BC			200		4953				USGS 1980	DESTROYED
(C-28-10) 8BAC1	SULLIVAN	1927	70	14	4955				USGS 1980	DESTROYED
(C-28-10) 8BAC2	SULLIVAN	1955	144	16	4955	09 1955	5.0	4950	MOWER & CORDOVA 1974	
(C-28-10) 8BAD1	SULLIVAN	1926	60	14	4953				USGS 1980	
(C-28-10) 8BAD2	SULLIVAN	1927	70	14	4953	12 1941	2 0	4951	USGS 1980	
(C-28-10) 8BAD3	SULLIVAN	1955	145	16	4953	09 1955	5 0	4948	MOWER & CORDOVA 1974	
(C-28-10) 8BBC1	UNION PACIFIC	1927	745	10	4956				USGS 1980	
(C-28-10) 8BBC2	UNION PACIFIC		310		4957				USGS 1980	DESTROYED
(C-28-10) 8?AB	GILLINS				4955				USGS 1980	
(C-28-10) 8CAC1	GILLINS	1931	67	14	4957	02 1938	2 0	4955	USGS 1980	DESTROYED
(C-28-10) 8CAC2	GILLINS	1951	78	14	4957	10 1979	20 0	4937	MOWER & CORDOVA 1974	
(C-28-10) 8?BA	UNION PACIFIC				4957	09 1970	18 0	4939	USGS 1980	DESTROYED
(C-28-10) 8?DD1		1931	14		4958	04 1940	2 0	4956	USGS 1980	DESTROYED
(C-28-10) 8CDD2	GILLINS	1969	96	6	4958	12 1969	20 0	4938	USGS 1980	
(C-28-10) 8DBD	MURDOCK	1916	274	2	4958	04 1946	3 0	4955	USGS 1980	DESTROYED
(C-28-10) 8DCC	THOMPSON	1920			4958				USGS 1980	
(C-28-10)14BBA	HANSON	1957	255	8		12 1957	190 0		USGS 1980	
(C-28-10)14BBB	HANSON	1915	225	4	5170				USGS 1980	DESTROYED
(C-28-10)15CCC	HANSON	1930		4	5078				USGS 1980	DESTROYED
(C-28-10)16BAA					5015				USGS 1980	DESTROYED
(C-28-10)16CDA	MAYER	1952	430	16	5026	03 1979	56 0	4970	USGS 1980	
(C-28-10)16DCB	MC CONNELL				5030				USGS 1980	DESTROYED
(C-28-10)16DDD	MC CONNELL				5070				USGS 1980	DESTROYED
(C-28-10)17BAB	TAYLOR	1934	30	8	4959	05 1965	22 0	4937	USGS 1980	DESTROYED
(C-28-10)17BDA	POOL	1941		8	4964	03 1958	7 0	4957	MOWER & CORDOVA 1974	
(C-28-10)17CCC	GOODWIN	1934	92	14	4970	04 1940	6 0	4964	MOWER & CORDOVA 1974	
(C-28-10)17CDC1	DAVIE	1953	60	14	4971	04 1940	5 0	4965	USGS 1980	DESTROYED
(C-28-10)17CDC2	DAVIE	1953	220	14	4971	05 1965	22 0	4949	MOWER & CORDOVA 1974	
(C-28-10)17CDD	TAYLOR	1949	170	14	4975	03 1950	8 0	4967	MOWER & CORDOVA 1974	
(C-28-10)17DCD	MAYER	1951	155	14	4983	04 1952	16 0	4967	MOWER & CORDOVA 1974	
(C-28-10)18ACA	GOODWIN	1882	60	2	4972				MOWER & CORDOVA 1974	DESTROYED
(C-29-10)18ACD1		1928	75		4965	01 1938	7 0	4958	USGS 1980	DESTROYED
(C-28-10)18ACD2		1955	180		4965				USGS 1980	
(C-28-10)18?DA	GOODWIN	1950	10	8	4961				USGS 1980	DESTROYED
(C-28-10)18?AB	MAYER	1949	193	14	4970	10 1979	32 0	4938	USGS 1980	
(C-28-10)18DCD	SLY	1961	112	6	4968	09 1961	20 0	4948	USGS 1980	

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(C-28-10)18DDD	MERRYWEATHER	1975	252	8	4969	09 1975	42.0	4927	USGS 1980	
(C-28-10)19AAA	PRICE	1953	224	6	4971				USGS 1980	DESTROYED
(C-28-10)19ABC	WALKER	1904	260	2	4968	11 1936	0.0	4968	USGS 1980	
(C-28-10)19ABD1	WALKER	1924	60	18	4969	06 1950	6.0	4963	USGS 1980	DESTROYED
(C-28-10)19ABD2	WALKER	1961	189	0	4969				MOWER & CORDOVA 1974	
(C-28-10)19ACC1	PRICE	1930	63	16	4972	05 1951	9.0	4963	USGS 1980	DESTROYED
(C-28-10)19ACC2	PRICE	1956	200	14	4973	05 1956	18.0	4955	MOWER & CORDOVA 1974	
(C-28-10)19ADD1	PRICE	1923	65	16	4973	11 1936	11.0	4962	MOWER & CORDOVA 1974	DESTROYED
(C-28-10)19ADD2	PRICE		76		4974				USGS 1980	DESTROYED
(C-28-10)19ADD3	PRICE	1954	160	14	4974	03 1979	27.0	4947	MOWER & CORDOVA 1974	
(C-28-10)19BBC	YARDLEY	1935	71	14	4971	01 1938	9.0	4962	MOWER & CORDOVA 1974	
(C-28-10)19BCB1					4969				USGS 1980	DESTROYED
(C-28-10)19BCD1	YARDLEY	1918	58	12	4973	06 1952	9.0	4964	USGS 1980	DESTROYED
(C-28-10)19BCD2	YARDLEY	1961	210	12	4973	05 1971	49.0	4924	USGS 1980	
(C-28-10)19CBD	YARDLEY	1934	96	14	4976	12 1951	11.0	4965	USGS 1980	DESTROYED
(C-28-10)19CCD1	YARDLEY	1926	76	14	4979	04 1940	7.0	4972	USGS 1980	DESTROYED
(C-28-10)19CCD2	YARDLEY	1904	350	6	4978				USGS 1980	
(C-28-10)19CCD4	YARDLEY	1946	102	16	4977	05 1971	16.0	4961	USGS 1980	
(C-28-10)19CAD1	ROBERTS	1924	72	14	4979	12 1951	12.0	4967	USGS 1980	DESTROYED
(C-28-10)19CAD2	ROBERTS	1957	280	14	4979				MOWER & CORDOVA 1974	
(C-28-10)19CCC1	TOLLEY	1920	110	16	4979	02 1936	13.0	4966	USGS 1980	DESTROYED
(C-28-10)19CCC2	TOLLEY	1946	300	6	4981				MOWER & CORDOVA 1974	
(C-28-10)19CCC3	TOLLEY	1952	125	16	4980				MOWER & CORDOVA 1974	
(C-28-10)19CDD1	ROBERTS	1920	109	16	4981				USGS 1980	DESTROYED
(C-28-10)19CDD2	ROBERTS	1961	163	14	4981				MOWER & CORDOVA 1974	
(C-28-10)20CBC1	KIRK	1930	36	6	4971				USGS 1980	
(C-28-10)20CBC2	KIRK	1930	36	6	4971				USGS 1980	DESTROYED
(C-28-10)20CBD1	SCOTT	1931	90	16	4975	10 1951	12.0	4963	USGS 1980	DESTROYED
(C-28-10)20CBD2	SCOTT	1956	140		4973	05 1956	22.0	4951	MOWER & CORDOVA 1974	
(C-28-10)20CDD	MAYER	1923	85	16	4982	04 1942	8.0	4974	MOWER & CORDOVA 1974	
(C-28-10)20CCC1	MAYER	1936	90	14	4983	05 1936	9.0	4974	USGS 1980	DESTROYED
(C-28-10)20CCC2	MAYER	1957	180	6	4983	06 1957	40.0	4943	USGS 1980	
(C-28-10)20CCC3	MAYER	1961	390	14	4983	08 1961	44.0	4939	MOWER & CORDOVA 1974	
(C-28-10)20CCD1	MAYER	1924	84	14	4984	12 1942	10.0	4974	MOWER & CORDOVA 1974	
(C-28-10)20CCD2	MAYER	1951	148	14	4983	12 1956	24.0	4959	MOWER & CORDOVA 1974	
(C-28-10)20CDD1	CHANEY	1920	48	10	4988	10 1951	16.0	4972	MOWER & CORDOVA 1974	DESTROYED
(C-28-10)20CDD2	CHANEY	1952	120	14	4988	03 1953	13.0	4975	MOWER & CORDOVA 1974	
(C-28-10)20DCD1	WISEMAN	1958	65	14	4992	03 1959	14.0	4978	USGS 1980	DESTROYED
(C-28-10)20DCD2	WISEMAN	1958	344	14	4993	09 1958	70.0	4923	MOWER & CORDOVA 1974	
(C-28-10)20DDC1	WISEMAN	1928	64	14	4996	04 1940	13.0	4983	USGS 1980	DESTROYED
(C-28-10)20DDC2	WISEMAN	1961	210	6	4994	02 1961	65.0	4929	USGS 1980	
(C-28-10)20DDD	WISEMAN	1951	410	16	4997	03 1955	20.0	4977	MOWER & CORDOVA 1974	
(C-28-10)21BAA	MAYER	1960	949	14	5026	03 1960	38.0	4988	MOWER & CORDOVA 1974	
(C-28-10)21CBB1	WISEMAN	1915	75	4	4993	09 1919	16.0	4977	USGS 1980	DESTROYED
(C-28-10)21CBB2	WISEMAN	1950	250	8	4993	04 1950	29.0	4964	USGS 1980	
(C-28-10)21CCD	WISEMAN	1949	316	12	5010	03 1950	21.0	4989	MOWER & CORDOVA 1974	
(C-28-10)21CDD					5021				USGS 1980	DESTROYED
(C-28-10)22CCC	HANSON				5085				USGS 1980	DESTROYED
(C-28-10)27BBB	HANSON	1953	132	4	5085	03 1976	94.0	4991	USGS 1980	
(C-28-10)28AAA	MC KNIGHT				5082				USGS 1980	DESTROYED
(C-28-10)28CAA	MAYER				5022				USGS 1980	DESTROYED
(C-28-10)28CDD	MAYER	1952	360	16	5019	03 1979	43.0	4976	USGS 1980	
(C-28-10)28DBD	MAYER	1971	450	12	5038	08 1971	59.0	4979	MOWER & CORDOVA 1974	
(C-28-10)29AAD	MAYER				4999				USGS 1980	
(C-28-10)29ABC	MAYER		72		4990				USGS 1980	
(C-28-10)29ADD	MAYER	1952	543	16	5000	04 1952	14.0	4986	MOWER & CORDOVA 1974	
(C-28-10)29BCC1	WILLIAMS	1927	74	14	4990	03 1953	13.0	4977	MOWER & CORDOVA 1974	
(C-28-10)29BCC2	WILLIAMS	1953	253	14	4990	04 1951	10.0	4980	MOWER & CORDOVA 1974	
(C-28-10)29BCD1	WILLIAMS	1933	70	14	4990				USGS 1980	DESTROYED
(C-28-10)29BCD2	WILLIAMS	1951	143	14	4990	04 1951	10.0	4980	MOWER & CORDOVA 1974	
(C-28-10)27BDD1	COYLE	1927	62	14	4992	03 1950	10.0	4982	MOWER & CORDOVA 1974	DESTROYED
(C-28-10)29BDD2	COYLE	1956	200	14	4992	04 1956	30.0	4962	MOWER & CORDOVA 1974	
(C-28-10)29CAA	LOFTHOUSE	1930	47	10	4994				USGS 1980	
(C-28-10)29CAD1	YARDLEY	1928	0	14	4997				USGS 1980	DESTROYED
(C-28-10)29CAD2	YARDLEY	1956	204		4997				MOWER & CORDOVA 1974	
(C-28-10)29CCC	YARDLEY	1925	74	14	4997				USGS 1980	DESTROYED
(C-28-10)29CCD1	YARDLEY	1934	83	14	4998				USGS 1980	DESTROYED
(C-28-10)29CCD2	YARDLEY	1933	60	2	4997				USGS 1980	
(C-28-10)29CCD3	YARDLEY	1960	136	12	4998	04 1960	30.0	4968	MOWER & CORDOVA 1974	
(C-28-10)29CDC1	YARDLEY	1913	85	14	4997				USGS 1980(	DESTROYED
(C-28-10)29CDC2	YARDLEY	1936	212	8	4998	04 1938	13.0	4985		DESTROYED
(C-28-10)27CDC3	YARDLEY	1955	220	14	4998				MOWER & CORDOVA 1974	
(C-28-10)29DCC1	ROWLEY	1926	77	14	4999	03 1950	9.0	4990	USGS 1980	DESTROYED
(C-28-10)29DCC2	ROWLEY	1928	36	36	4999				USGS 1980	DESTROYED
(C-28-10)29DCC3	ROWLEY	1958	180	14	4999				MOWER & CORDOVA 1974	
(C-28-10)29DDD	MAYER	1952	360	14	5005	04 1971	34.0	4971	MOWER & CORDOVA 1974	
(C-28-10)30ACD1	WILLIAMS	1922	52	16	4986				USGS 1980	DESTROYED
(C-28-10)30ACD2	WILLIAMS	1950	99	12	4986	09 1950	9.0	4977	USGS 1980	
(C-28-10)30ADC1	WILLIAMS	1935	101	14	4990	03 1951	11.0	4979	MOWER & CORDOVA 1974	DESTROYED
(C-28-10)30ADC3	WILLIAMS	1961	404	14	4990				USGS 1980	
(C-28-10)30BDC1	BALDWIN	1920	48	16	4985	10 1923	12.0	4973	USGS 1980	DESTROYED
(C-28-10)30BDC2	BALDWIN	1953	131	16	4985	03 1953	10.0	4975	USGS 1980	DESTROYED
(C-28-10)30BDC3	BALDWIN	1963	290	17	4985				MOWER & CORDOVA 1974	
(C-28-10)30BDD1	BALDWIN	1920	58	16	4986	02 1920	10.0	4985	USGS 1980	DESTROYED

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-28-10)30BDD1	BALDWIN	1920	58	16	4986	02 1920	10 0	4976	USGS 1980	DESTROYED
(C-28-10)30BDD2	BALDWIN	1952	148	16	4986				MOWER & CORDOVA 1974	
(C-28-10)30CAD1	YARDLEY	1925	52	14	4991				USGS 1980	DESTROYED
(C-28-10)30CAD2	YARDLEY	1954	150	14	4991				MOWER & CORDOVA 1974	
(C-28-10)30CBC	SMITH				4985				USGS 1980	DESTROYED
(C-28-10)30CBD	PAICE	1950	196	16	4989				MOWER & CORDOVA 1974	
(C-28-10)30CDC1	PAICE	1924	54	14	4994	04 1923	8 0	4986	USGS 1980	DESTROYED
(C-28-10)30CDC2	PAICE	1954	160	14	4994	03 1979	44 0	4950	USGS 1980	
(C-28-10)30DBB1	FISHER	1925	54	2	4988				USGS 1980	DESTROYED
(C-28-10)30DBB2	FISHER	1956	186	6	4988				MOWER & CORDOVA 1974	
(C-28-10)31AAA	CHURCH		122		4992				USGS 1980	
(C-28-10)31ACC1	MAYER	1912	89	16	5003	03 1950	14 0	4989	USGS 1980	DESTROYED
(C-28-10)31ACC2	MAYER	1961	180	12	5004	10 1970	57 0	4947	MOWER & CORDOVA 1974	
(C-28-10)31ACD1	MAYER	1930	79	14	5003				USGS 1980	DESTROYED
(C-28-10)31ACD2	MAYER	1956	140	14	5003	04 1971	37 0	4966	USGS 1980	
(C-28-10)31ADC1	CHURCH	1924	125	10	5003				USGS 1980	DESTROYED
(C-28-10)31ADC2	LDS	1951	175	16	5003	04 1971	36 0	4967	MOWER & CORDOVA 1974	
(C-28-10)31ADD	LDS	1931	77	16	5004	06 1931	17 0	4987	MOWER & CORDOV1 1974	
(C-28-10)31BAD1	MAYER	1927	90	12	5000				USGS 1980	DESTROYED
(C-28-10)31BAD2	MAYER	1935	90	14	5000				USGS 1980	
(C-28-10)31BAD3	MAYER	1961	290	14	5000	10 1970	55 0	4945	MOWER & CORDOVA 1974	
(C-28-10)31BBD1	THURSTON	1931	72	14	4998				USGS 1980	DESTROYED
(C-28-10)31BBD2	THURSTON				4998				MOWER & CORDOVA 1974	
(C-28-10)31BBD3	THURSTON	1954	150	6	4998	02 1954	22 0	4976	USGS 1980	
(C-28-10)31BCD1	NARUSE	1922	58	16	5001				USGS 1980	DESTROYED
(C-28-10)31BCD2	NARUSE	1953	136	14	5001	08 1953	22 0	4979	MOWER & CORDOVA 1974	
(C-28-10)31BDC	NARUSE	1927	65	12	5001				USGS 1980	DESTROYED
(C-28-10)31BDD1	NARUSE	1921	100	14	5003	05 1938	14 0	4989	USGS 1980	DESTROYED
(C-28-10)31BDD2	NARUSE	1956	240	14	5003	04 1956	33 0	4970	MOWER & CORDOVA 1974	
(C-28-10)31CAD1	MAYER	1930	78	14	5007				USGS 1980	DESTROYED
(C-28-10)31CAD2	MAYER	1956	150	14	5007	09 1970	61 0	4946	MOWER & CORDOVA 1974	
(C-28-10)31CBD	MAYER	1934	71	14	5002				USGS 1980	DESTROYED
(C-28-10)31CCD1	MAYER	1921	84	12	5007	02 1936	26 0	4981	USGS 1980	DESTROYED
(C-28-10)31CCD2	MAYER	1936	128	14	5007	04 1936	15 0	4992	USGS 1980	DESTROYED
(C-28-10)31CCD3	MAYER	1952	172	16	5007	09 1970	57 0	4950	MOWER & CORDOVA 1974	
(C-28-10)31CDD1	PUFFER	1921	78	14	5011	03 1935	25 0	4986	USGS 1980	DESTROYED
(C-28-10)31CDD2	PUFFER				5011	03 1932	24 0	4987	USGS 1980	DESTROYED
(C-28-10)31CDD3	PUFFER	1954	160	12	5011	09 1970	72 0	4939	MOWER & CORDOVA 1974	
(C-28-10)31DCC1	PUFFER				5011				USGS 1980	DESTROYED
(C-28-10)31DCC2	PUFFER	1926	138	14	5011				USGS 1980	DESTROYED
(C-28-10)31DCC3	PUFFER	1960	269	12	5011	10 1960	38 0	4973	MOWER & CORDOVA 1974	
(C-28-10)31DCD1	PUFFER	1924	72	14	5013	03 1950	19 0	4994	USGS 1980	DESTROYED
(C-28-10)31DCD2	PUFFER	1951	176	16	5013		25 0	4988	MOWER & CORDOVA 1974	
(C-28-10)31DDC1	PRICE	1925	65	14	5014	09 1935	36 0	4978	USGS 1980	DESTROYED
(C-28-10)31DDC2	PRICE	1949	195	12	5014	07 1950	40 0	4974	MOWER & CORDOVA 1974	
(C-28-10)32AAC	VALINE	1927	94	14	5008	12 1951	20 0	4988	USGS 1980	
(C-28-10)32AAD	VALINE	1956	171	14	5009	04 1971	35 0	4974	MOWER & CORDOVA 1974	
(C-28-10)32ADD1	VANTASSELL		171		5014	04 1971	35 0	4979	USGS 1980	
(C-28-10)32BAA1	YARDLEY	1912	250	10	4998	04 1950	9 0	4989	USGS 1980	DESTROYED
(C-28-10)32BAA2	YARDLEY		0		4997	04 1950	9 0	4988	USGS 1980	DESTROYED
(C-28-10)32BAA3	YARDLEY		0		4998	05 1951	16 0	4982	USGS 1980	DESTROYED
(C-28-10)32BBC1	YARDLEY	1925	83	14	5000				USGS 1980	DESTROYED
(C-28-10)32BBC2	YARDLEY	1935	67	14	5000				USGS 1980	DESTROYED
(C-28-10)32BBC3	YARDLEY	1942	137	14	5000	06 1950	27 0	4973	MOWER & CORDOVA 1974	
(C-28-10)32BDA1	YARDLEY	1926	84	14	5001	04 1940	9 0	4992	USGS 1980	DESTROYED
(C-28-10)32BDA2	YARDLEY	1961	400	14	5001	08 1961	52 0	4949	MOWER & CORDOVA 1974	
(C-28-10)32CAC1	YARDLEY	1925			5010				USGS 1980	DESTROYED
(C-28-10)32CAC2	YARDLEY	1936	109	14	5010	03 1936	27 0	4983	USGS 1980	DESTROYED
(C-28-10)32CAC3	YARDLEY	1950	156	6	5010				USGS 1980	
(C-28-10)32CAC4	YARDLEY	1960	250	14	5010				MOWER & CORDOVA 1974	
(C-28-10)32CBC	BAXTER	1926	70	2	4999				USGS 1980	DESTROYED
(C-28-10)32CCC1	MUIR	1925	72	14	5014	03 1961	40 0	4974	USGS 1980	DESTROYED
(C-28-10)32CCC2	MUIR	1967	245	8	5014	05 1967	91 0	4923	USGS 1980	
(C-28-10)32CCD1	PAICE	1926	60	12	5014	11 1926	20 0	4994	MOWER & CORDOVA 1974	DESTROYED
(C-28-10)32CCD2	PAICE	1952	298	14	5014	03 1958	35 0	4979	MOWER & CORDOVA 1974	
(C-28-10)32CDC1	PAICE	1926	85	14	5014	04 1940	16 0	4998	USGS 1980	DESTROYED
(C-28-10)32CDC2	PAICE	1961	300	14	5014	08 1961	70 0	4944	MOWER & CORDOVA 1974	
(C-28-10)32DBC	PAICE	1931	84	18	5011	01 1938	18 0	4993	USGS 1980	DESTROYED
(C-28-10)32DCC1	PAICE	1927	68	14	5018	06 1950	32 0	4986	USGS 1980	DESTROYED
(C-28-10)32DCC2	PAICE	1955	90	14	5018				USGS 1980	
(C-28-10)32DCD	PAICE	1955	300	14	5019	04 1971	43 0	4976	MOWER & CORDOVA 1974	
(C-28-10)32DDD	VANTASSELL	1954	287	16	5020	03 1979	55 0	4965	USGS 1980	
(C-28-10)33ABA1	EYRE	1916	140	8	5045	09 1935	39 0	5006	MOWER & CORDOVA 1974	DESTROYED
(C-28-10)33ABA2	EYRE				5045	12 1941	17 0	5028	USGS 1980	DESTROYED
(C-28-10)33ABA3	EYRE				5045				USGS 1980	DESTROYED
(C-28-10)33ABA4	EYRE	1968	328	6	5045	04 1968	65 0	4980	MOWER & CORDOVA 1974	
(C-28-10)33ABB	EYRE	1948	360	6	5024	07 1948	19 0	5005	USGS 1980	
(C-28-10)33BAA	EYRE	1920	78	4	5021				USGS 1980	DESTROYED
(C-28-11) 4BBB	BLM	1915	225	4	5540				USGS 1980	DESTROYED
(C-28-11)1CACD	BLM	1939	227	5	5108	03 1979	160 0	4948	USGS 1980	
(C-28-11)12ABB	HOLY NAME	1954	440	16	5062	10 1954	108 0	4954	MOWER & CORDOVA 1974	
(C-28-11)12DBC	MAYER	1954	460	14	5030	10 1979	93 0	4937	USGS 1980	
(C-28-11)13DCA1	BRINKMAN	1903	600	6	4972	12 1938	0 0	4972	USGS 1980	DESTROYED
(C-28-11)13DCA2	BRINKMAN				4972	12 1938	1 0	4971	USGS 1980	DESTROYED

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(C-28-11)1[illegible]CA3	BRINKMAN				4972				USGS 1980	DESTROYED
(C-28-11)12CDD	PULLEM	1955		4	4966	12 1956	11 0	4955	USGS 1980	DESTROYED
(C-28-11)22CAB	HAYWOOD	1938	72	10	5004	03 1977	50 0	4954	USGS 1980	DESTROYED
(C-28-11)23AAD	SMITH	1955	60	6	4976	04 1955	13 0	4963	USGS 1980	DESTROYED
(C-28-11)23ABB1	MILFORD	1923	80	14	4988	05 1941	22 0	4966	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)23ABB2	MILFORD	1968	118	6	4988	09 1970	37 0	4951	MOWER & CORDOVA 1974	
(C-28-11)23CBB1	MOODY	1926	74	16	4990				USGS 1980	DESTROYED
(C-28-11)23CBB2	MOODY	1952	95	16	4990	11 1952	22 0	4968	MOWER & CORDOVA 1974	
(C-28-11)24CBB	TOLLEY	1926	60	1	4973				USGS 1980	DESTROYED
(C-28-11)24CAA1	MAYER	1928	204	12	4974	02 1939	8 0	4966	USGS 1980	DESTROYED
(C-28-11)24CDA1	YARDLEY				4974				USGS 1980	DESTROYED
(C-28-11)24CDA2	YARDLEY				4975				USGS 1980	DESTROYED
(C-28-11)24CDA3	YARDLEY	1929	20	14	4974	03 1950	4 0	4970	USGS 1980	
(C-28-11)24CDA4	YARDLEY	1968	130	6	4974	02 1968	9 0	4965	USGS 1980	
(C-28-11)25ABD1	SMITH	1928	77	14	4977	04 1940	4 0	4973	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)25ABD2	SMITH	1956	200	6	4977	04 1956	18 0	4959	USGS 1980	
(C-28-11)25ABD3	SMITH	1961	203	14	4977	09 1961	25 0	4952	MOWER & CORDOVA 1974	
(C-28-11)25ADA	GREEN DIAMOND				4981				USGS 1980	DESTROYED
(C-28-11)25DCD	GREEN DIAMOND	1950	431	16	4987	03 1979	37 0	4950	USGS 1980	
(C-28-11)25DDD1	GREEN DIAMOND	1924	73	14	4989	04 1924	7 0	4982	USGS 1980	DESTROYED
(C-28-11)25DDD2	GREEN DIAMOND	1954	150	14	4989	04 1954	22 0	4967	MOWER & CORDOVA 1974	
(C-28-11)26CDC	COOK		8		4977	11 1941	2 0	4975	USGS 1980	
(C-28-11)26DCB	COOK	1928	20	16	4976	11 1941	2 0	4974	USGS 1980	
(C-28-11)26DDD	COOK	1935	15	16	4983	09 1941	8 0	4975	USGS 1980	DESTROYED
(C-28-11)27CAB	SLY				5012	07 1941	35 0	4977	USGS 1980	DESTROYED
(C-28-11)27CDD	ROLLINS				5001				USGS 1980	DESTROYED
(C-28-11)28ACC	DOTSON	1969		6		09 1971	182 0		USGS 1980	
(C-28-11)33DAC	NEWMAN	1940	43	5	5010	09 1970	30 0	4980	USGS 1980	
(C-28-11)34CBC	NEWMAN	1915	88	16	5006	09 1941	25 0	4981	USGS 1980	DESTROYED
(C-28-11)34DCB	GRONNING	1925	73	18	5001	11 1941	19 0	4982	USGS 1980	
(C-28-11)35AAD1	STEWART	1928	51	14	4987	06 1950	19 0	4968	USGS 1980	DESTROYED
(C-28-11)35AAD2	STEWART	1962	204	14	4987	08 1962	30 0	4957	MOWER & CORDOVA 1974	
(C-28-11)35ADD1	STEWART	1928	77	14	4989	10 1979	44 0	4945	USGS 1980	DESTROYED
(C-28-11)35ADD2	STEWART	1951	171	16	4991	10 1975	30 0	4961	USGS 1980	
(C-28-11)35CAD	COOK		0		4981	05 1971	17 0	4964	MOWER & CORDOVA 1974	
(C-28-11)35DCD1	MAYER	1928	50	16	4995				USGS 1980	DESTROYED
(C-28-11)35DCD2	MAYER	1968	215	14	4995	11 1968	32 0	4963	MOWER & CORDOVA 1974	
(C-28-11)35DDD1	SLY	1927	74	14	4999	02 1939	11 0	4988	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)35DDD2	SLY	1952	150	16	5000	05 1952	22 0	4978	MOWER & CORDOVA 1974	
(C-28-11)36AAA1	MOORE	1949	143	6	4990				USGS 1980	
(C-28-11)36AAD1	MOORE	1920	110	16	4994	02 1938	14 0	4980	USGS 1980	DESTROYED
(C-28-11)36AAD2	MOORE	1961	270	12	4994	03 1961	50 0	4944	MOWER & CORDOVA 1974	
(C-28-11)36ADD1	SMITH	1925	62	14	4998	02 1939	8 0	4990	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)36ADD2	SMITH	1955	154	14	4997	03 1978	40 0	4957	USGS 1980	
(C-28-11)36BAC1	STEWART	1930	72	14	4988	03 1950	6 0	4982	USGS 1980	DESTROYED
(C-28-11)36BAC2	STEWART	1951	140	14	4988	05 1951	12.0	4976	MOWER & CORDOVA 1974	
(C-28-11)36BAD1	STEWART	1922	85	14	4987	03 1950	6.0	4981	USGS 1980	DESTROYED
(C-28-11)36BAD2	STEWART	1949	150	14	4988	04 1949	5 0	4983	USGS 1980	
(C-28-11)36BBA1	STEWART	1929	18	12	4983	11 1945	5 0	4978	USGS 1980	DESTROYED
(C-28-11)36BBA2	STEWART	1928	66	14	4983	02 1936	9 0	4974	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)36BBA3	STEWART	1949	150	4	4983	04 1949	4 0	4979	USGS 1980	
(C-28-11)36BCC	MAYER	1934			4991				USGS 1980	DESTROYED
(C-28-11)36BDD1	STEWART	1919	77	14	4994	09 1941	12.0	4982	USGS 1980	DESTROYED
(C-28-11)36BDD2	STEWART	1952	223	16	4994	10 1952	12 0	4982	MOWER & CORDOVA 1974	
(C-28-11)36CAD1	NARUSE	1932	85	14	4998	03 1950	12 0	4986	USGS 1980	DESTROYED
(C-28-11)36CAD2	NARUSE	1949	155	14	4997	04 1949	9 0	4988	USGS 1980	
(C-28-11)36CAD3	NARUSE	1951	170	14	4998	12 1951	16 0	4982	MOWER & CORDOVA 1974	
(C-28-11)36CBD	MAYER	1934	78	14	4996	12 1951	15 0	4981	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)36CCA	MAYER	1967	184	14	4997	02 1967	40 0	4957	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)36CCD	MAYER	1932	60	2	4977				USGS 1980	DESTROYED
(C-28-11)36CDD1	THOMPSON	1920	90	16	5003	03 1950	15 0	4988	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)36CDD2	THOMPSON	1921	80	3	5001				USGS 1980	
(C-28-11)36CDD3	THOMPSON	1951	315	16	5003	04 1971	36 0	4967	MOWER & CORDOVA 1974	
(C-28-11)36DCC1	THOMPSON	1925	64	14	5003	12 1942	14 0	4989	USGS 1980	DESTROYED
(C-28-11)36DCC2	THOMPSON	1951	172	16	5005	04 1971	38 0	4967	MOWER & CORDOVA 1974	
(C-28-11)36DCD	THOMPSON	1932	71	14	5002				USGS 1980	DESTROYED
(C-28-11)36DDD1	MC BRIDE	1925	60		5004	03 1950	12 0	4992	MOWER & CORDOVA 1974	DESTROYED
(C-28-11)36DDD2	MC BRIDE	1928	80	14	5002				USGS 1980	DESTROYED
(C-28-11)36DDD3	MC BRIDE	1956	204	14	5002	04 1956	25 0	4977	MOWER & CORDOVA 1974	
(C-28-11)36DDD4	MC BRIDE	1960	170	14	5002	08 1960	44 0	4958	MOWER & CORDOVA 1974	
(C-28-11)36DDD5	MC BRIDE	1966	220	6	5002	04 1964	60 0	4942	USGS 1980	
(C-28-13)29CDC	SEVEY				5995				USGS 1980	
(C-28-13)35CBC	DOTSON		490		6170	05 1972	84 0	6086	USGS 1980	
(C-29-10) 3CCB	UTAH	1953	132	4	5140	11 1953	116 0	5024	USGS 1980	
(C-29-10) 5ADD	VANTASSELL	1953	310	16	5032	04 1953	35 0	4997	MOWER & CORDOVA 1974	
(C-29-10) 5BAC1	VANTASSELL	1928	82	14	5020	02 1938	24 0	4996	USGS 1980	DESTROYED
(C-29-10) 5BAC2	VANTASSELL	1953	178	14	5020				MOWER & CORDOVA 1974	
(C-29-10) 5CBB	THOMPSON	1965	225	6	5016	06 1965	70 0	4946	MOWER & CORDOVA 1974	
(C-29-10) 5CAD1	VANTASSELL	1928	84	14	5031	02 1938	30 0	5001	USGS 1980	DESTROYED
(C-29-10) 5CAD2	VANTASSELL	1952	166	6	5031	05 1952	46 0	4985	MOWER & CORDOVA 1974	
(C-29-10) 5CAD3	VANTASSELL	1957	302	14	5031	04 1957	26 0	5005	MOWER & CORDOVA 1974	
(C-29-10) 5CDD1	VANTASSELL	1915	60	48	5036				USGS 1980	DESTROYED
(C-29-10) 5CDD2	VANTASSELL	1932	95	12	5036				USGS 1980	DESTROYED
(C-29-10) 5CDD3	VANTASSELL	1947	170	6	5036	10 1947	34 0	5002	USGS 1980	
(C-29-10) 5CDD4	VANTASSELL	1949	198	14	5037	03 1950	31 0	5006	MOWER & CORDOVA 1974	

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo. yr.)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
[illegible]-29-1[illegible] [illegible]CDD	VANTASSELL	1964	295	14	5037	03 1979	67 0	4968	USGS 1980	
[illegible]-29-10 [illegible]CDD	VANTASSELL	1952	320	16	5039	09 1952	50 0	4989	MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]DDD	VANTASSELL	1958	320	14	5042	08 1958	60 0	4982	MOWER & CORDOVA 1974	
[illegible]-29-10 [illegible]AD1	MAYER	1923	95	14	5019	03 1935	28 0	4991	USGS 1980	DESTROYED
[illegible]-29-10 [illegible]AD2	MAYER	1954	168	14	5019	06 1954	35 0	4984	MOWER & CORDOVA 1974	
[illegible]-29-10 [illegible]BB1	MAYER	1950	98	16	5014	10 1979	67 0	4947	USGS 1980	
[illegible]-29-10 [illegible]BB2	MAYER	1951	193	6	5012	07 1951	39 0	4973	MOWER & CORDOVA 1974	
[illegible]-29-10 [illegible]CA1	MAYER	1924	67	14	5022	03 1936	23 0	4999	USGS 1980	DESTROYED
[illegible]-29-10) [illegible]CA2	MAYER	1952	200	16	5022	04 1971	50 0	4972	MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]AA1	MAYER	1921	90	12	5012				MOWER & CORDOVA 1974	DESTROYED
[illegible]-29-10 [illegible]AA2	MAYER	1953	190	16	5012	03 1953	26 0	4986	MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]AD	MAYER	1926	63	12	5014				USGS 1980	DESTROYED
[illegible]-29-10 [illegible]DD	MAYER	1930	130	14	5010	12 1951	22 0	4988	USGS 1980	DESTROYED
[illegible]-29-10 [illegible]	MAYER	1947	350	14	5030	12 1950	34 0	4996	USGS 1980	
[illegible]-29-10 [illegible]	MAYER	1961	258	14	5030	08 1961	68 0	4962	MOWER & CORDOVA 1974	
[illegible]-29-10 [illegible]	MAYER	1949	235	12	5033	04 1949	33 0	5000	MOWER & CORDOVA 1974	
[illegible]-29-10 [illegible]DD1	TERRAL	1925	90	12	5033	05 1953	37 0	4996	MOWER & CORDOVA 1974	DESTROYED
[illegible]-29-10 [illegible]DD2	TERRAL	1952	154	16	5033	03 1979	66 0	4967	USGS 1980	
[illegible]-29-10 7ADA	MAYER	1976	265	7	5038	04 1976	68 0	4970	USGS 1980	
[illegible]-29-10 7CBD	DALTON	1934	80	14	5031	02 1938	31 0	5000	USGS 1980	DESTROYED
[illegible]-29-10 7CDB1	DALTON	1923	90	12	5037	04 1940	33 0	5004	USGS 1980	DESTROYED
[illegible]-29-10 7CDB2	DALTON	1955	200	14	5037	05 1955	35 0	5002	MOWER & CORDOVA 1974	
[illegible]-29-10) 7CDB3	DALTON	1957	207	6	5037				MOWER & CORDOVA 1974	
[illegible]-29-10) 7DDD	DALTON	1957	207	6	5046				USGS 1980	DESTROYED
[illegible]-29-10) 7DDD1	MAYER	1948	241	14	5054	03 1951	47 0	5007	MOWER & CORDOVA 1974	
[illegible]-29-10) 7DDD2	MAYER	1960	207	6	5054				MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]AD	GILLINS				5049	04 1950	34 0	5015	USGS 1980	DESTROYED
[illegible]-29-10) [illegible]DA1	GILLINS	1961	418	14	5050	08 1961	72 0	4978	USGS 1980	DESTROYED
[illegible]-29-10 [illegible]DA2	GILLINS	1965	422	16	5050	04 1971	60 0	4990	MOWER & CORDOVA 1974	
[illegible]-29-10 [illegible]AA	WOOD					03 1932	38 0		USGS 1980	
[illegible]-29-10) [illegible]DD	MARSHALL	1952	218	14	5060	04 1971	74 0	4966	MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]CD	MARSHALL	1969	392	16	5063	04 1971	76 0	4987	MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]DD1	MARSHALL	1952	210	16	5067	03 1955	63 0	5004	MOWER & CORDOVA 1974	
[illegible]-29-10) [illegible]DD2	MARSHALL	1961	410	14	5067	03 1979	89 0	4978	USGS 1980	
[illegible]-29-10 [illegible]DD	UTAH	1953	224	4	5212	03 1976	201 0	5011	USGS 1980	
[illegible]-29-10)[illegible]CC	PARKINSON		1040		5090	12 1937	48 0	5042	USGS 1980	DESTROYED
[illegible]-29-10)[illegible]DC	PARKINSON	1952	192	14	5098				MOWER & CORDOVA 1974	DESTROYED
[illegible]-29-10)[illegible]DD	PARKINSON	1950	157	6	5102	10 1950	75 0	5027	MOWER & CORDOVA 1974	
[illegible]-29-10)17ADD	THURMAN	1950	202	16	5078	03 1951	62 0	5016	MOWER & CORDOVA 1974	DESTROYED
[illegible]-29-10 17CDD	MARSHALL	1916	90	4	5072				USGS 1980	DESTROYED
[illegible]-29-10 17[illegible]	MARSHALL	1950	201	16	5081	12 1950	65 0	5016	MOWER & CORDOVA 1974	
[illegible]-29-10)17DDD1	THURMAN	1950	304	16	5090	03 1951	71 0	5019	MOWER & CORDOVA 1974	DESTROYED
(C-29-10)17DDD2	THURMAN	1960	220	14	5090	03 1979	109 0	4981	USGS 1980	
(C-29-10)18ADD	MAYER	1949	180	16	5065	09 1949	47 0	5018	MOWER & CORDOVA 1974	DESTROYED
(C-29-10)18DAA	MAYER	1957	298	16	5065	09 1957	45 0	5020	MOWER & CORDOVA 1974	
(C-29-10)18DAD	MAYER	1955	314	16	5067	03 1971	80 0	4987	MOWER & CORDOVA 1974	
(C-29-10)18DCD	MAYER	1970	375	14	5068	03 1971	78 0	4990	MOWER & CORDOVA 1974	
(C-29-10)18DDD	MAYER	1950	166	16	5072	12 1950	57 0	5015	MOWER & CORDOVA 1974	
(C-29-10)19DDD	BLM	1953	133	4	5095	10 1972	114 0	4981	MOWER & CORDOVA 1974	
(C-29-10)21SCC	BLM	1973	125	4	5100	09 1941	76 0	5024	USGS 1980	DESTROYED
(C-29-10)22DAB	MAYER	1971		6	5700	05 1971	145 0	5555	USGS 1980	DESTROYED
(C-29-10)27BBD	PEARSON	1947	146	6	5169	04 1947	108 0	5061	MOWER & CORDOVA 1974	
(C-29-10)32BBB	BLM	1953	160	4	5137	08 1977	142 0	4995	USGS 1980	
(C-29-10)35DCD	BLM	1953	175	4	5250	10 1979	137 0	5113	USGS 1980	
(C-29-11) 1ABD1	POWELL		86		5008	06 1950	28 0	4980	USGS 1980	DESTROYED
(C-29-11) 1ABD2	POWELL	1956	230	12	5008	09 1956	23 0	4985	MOWER & CORDOVA 1974	
(C-29-11) 1ADA1	MAYER	1915	40		5007				USGS 1980	DESTROYED
(C-29-11) 1ADA2	MAYER	1923	58		5009	02 1951	19 0	4990	USGS 1980	DESTROYED
(C-29-11) 1ADA3	MAYER	1954	145	14	5009	03 1971	41 0	4968	MOWER & CORDOVA 1974	
(C-29-11) 1ADD1	MAYER	1926	64	14	5015	09 1935	31 0	4984	MOWER & CORDOVA 1974	DESTROYED
(C-29-11) 1ADD2	MAYER	1955	200	14	5015	03 1979	51 0	4964	USGS 1980	
(C-29-11) 1BAD1	PRICE	1917			5004	04 1950	15 0	4989	USGS 1980	DESTROYED
(C-29-11) 1BAD2	PRICE	1950	140	14	5004	12 1951	19 0	4985	MOWER & CORDOVA 1974	
(C-29-11) 1CAC	SLY	1929	72	14	5009	12 1951	20 0	4989	USGS 1980	DESTROYED
(C-29-11) 1CAD2	SLY	1922	60	14	5013	04 1940	18 0	4995	USGS 1980	DESTROYED
(C-29-11) 1CAD3	SLY	1953	220	16	5013	05 1953	23 0	4990	MOWER & CORDOVA 1974	
(C-29-11) 1DDD	BACHUS	1950	210	16	5023	05 1950	23 0	5000	MOWER & CORDOVA 1974	
(C-29-11) 2AAC1	SHERWOOD	1926	64		5006	03 1956	24 0	4982	USGS 1980	DESTROYED
(C-29-11) 2AAC2	SHERWOOD	1956	204	14	5007	12 1956	29 0	4978	MOWER & CORDOVA 1974	
(C-29-11) 2ABB	COOK				4988				USGS 1980	DESTROYED
(C-29-11) 2ADC	APPLEGATE	1955	200	12	5003	04 1955	26 0	4977	MOWER & CORDOVA 1974	
(C-29-11) 2ADD	APPLEGATE	1922	52	16	5003	12 1941	14 0	4989	USGS 1980	DESTROYED
(C-29-11) 23AD2	COOK				4988	03 1957	2 0	4986	USGS 1980	DESTROYED
(C-29-11) 28AD3	COOK	1966	98	18	4988	08 1966	27 0	4961	MOWER & CORDOVA 1974	
(C-29-11) 2DDD1	SLY	1921	60	12	5010	03 1945	14 0	4996	USGS 1980	DESTROYED
(C-29-11) 2DDD2	SLY	1956	200	14	5010	04 1956	35 0	4975	MOWER & CORDOVA 1974	
(C-29-11) 4ACA	COOK	1921	68	16	4997	03 1945	8 0	4989	USGS 1980	DESTROYED
(C-29-11) 4BAA	COOK		68	16	5023	10 1979	51 0	4972	USGS 1980	
(C-29-11) 8AAD	BLM	1918		4	5020				USGS 1980	DESTROYED
(C-29-11) 9CBB	BLM	1961	63	8	5010	05 1971	20 0	4990	MOWER & CORDOVA 1974	
(C-29-11)10CBA	GOSPILL	1928	65	14	5001				USGS 1980	DESTROYED
(C-29-11)10DBB	GOSPILL	1928	55	14	5001	12 1938	10 0	4991	USGS 1980	DESTROYED
(C-29-11)10DDD	COOK	1957	103	6	5007				MOWER & CORDOVA 1974	W O
(C-29-11)11AAD1	RIMPAU	1923	70	16	5012	12 1948	16 0	4996	MOWER & CORDOVA 1974	DESTROYED

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(C-29-11)11AAD2	RIMPAU	1953	220	16	5012	04 1953	21 0	4991	MOWER & CORDOVA 1974	
(C-29-11)11AAD3	RIMPAU	1970	215	6	5009	10 1970	43 0	4966	MOWER & CORDOVA 1974	
(C-29-11)11ABA	RIMPAU	1923	84	14	5008	12 1951	18 0	4990	USGS 1980	DESTROYED
(C-29-11)11ACC1	RIMPAU	1914	53	5	5008	04 1940	13 0	4995	MOWER & CORDOVA 1974	DESTROYED
(C-29-11)11ACC2	RIMPAU	1957	170	6	5008	06 1957	30 0	4978	MOWER & CORDOVA 1974	
(C-29-11)11ACD1	RIMPAU	1928	82	16	5010	12 1951	15 0	4995	USGS 1980	DESTROYED
(C-29-11)11ACD2	RIMPAU	1955	166	14	5010	05 1955	21 0	4989	MOWER & CORDOVA 1974	
(C-29-11)11BAA	RIMPAU	1949	57	14	5000	04 1952	7 0	4993	USGS 1980	
(C-29-11)11CAA	RIMPAU	1952	95	14	5010	04 1952	14 0	4996	MOWER & CORDOVA 1974	
(C-29-11)11CAD	RIMPAU	1924	63	18	5007	12 1951	12 0	4995	USGS 1980	DESTROYED
(C-29-11)11CCD	APPLEGATE	1928	62	14	5016	03 1950	18 0	4998	MOWER & CORDOVA 1974	
(C-29-11)11CDD1	APPLEGATE	1929	63	18	5018	01 1930	17 0	5001	MOWER & CORDOVA 1974	DESTROYED
(C-29-11)11CDD2	APPLEGATE	1949	90	16	5018	10 1979	54 0	4964	USGS 1980	
(C-29-11)11DDC1	APPLEGATE	1927	65	16	5018	04 1941	19 0	4999	MOWER & CORDOVA 1974	DESTROYED
(C-29-11)11DDC2	APPLEGATE	1961	400	16	5018	09 1961	39 0	4979	MOWER & CORDOVA 1974	
(C-29-11)11DDD1	COOK	1918	83		5018	12 1937	20 0	4998	MOWER & CORDOVA 1974	DESTROYED
(C-29-11)11DDD3	COOK	1952	64	6	5018	03 1952	14 0	5004	USGS 1980	
(C-29-11)11DDD4	COOK	1961	155	8	5018	09 1961	32 0	4986	MOWER & CORDOVA 1974	
(C-29-11)12AAA	GREEN DIAMOND	1950	305	8	5022	03 1950	24 0	4998	MOWER & CORDOVA 1974	
(C-29-11)12ADD	GREEN DIAMOND		202	14	5030	03 1950	26 0	5004	MOWER & CORDOVA 1974	
(C-29-11)12CAA	GREEN DIAMOND	1963	312	16	5021	05 1963	45 0	4976	MOWER & CORDOVA 1974	
(C-29-11)12CCD	GREEN DIAMOND	1920	60	16	5020				USGS 1980	
(C-29-11)12DDC	GREEN DIAMOND	1952	240	16	5033	06 1953	35 0	4998	MOWER & CORDOVA 1974	
(C-29-11)12DDD	GREEN DIAMOND	1950	232	16	5035	06 1950	29 0	5006	MOWER & CORDOVA 1974	
(C-29-11)13ADD	NEBEKER	1946	278	14	5043	03 1979	71 0	4972	USGS 1980	
(C-29-11)13BCD	NEBEKER	1924	60	16	5030				USGS 1980	DESTROYED
(C-29-11)13CBD	NEBEKER	1925	50	14	5037	04 1940	29 0	5003	USGS 1980	DESTROYED
(C-29-11)13CCD	NEBEKER	1920	72	16	5039	03 1950	29 0	5010	USGS 1980	DESTROYED
(C-29-11)13DCB	NEBEKER	1969	445	16	5040	05 1969	65 0	4975	MOWER & CORDOVA 1974	
(C-29-11)13DCC	NEBEKER	1955	300	16	5043	06 1955	49 0	4994	MOWER & CORDOVA 1974	
(C-29-11)13DDD	NEBEKER	1947	248	16	5053	12 1951	46 0	5007	MOWER & CORDOVA 1974	
(C-29-11)14AAD1	BARNES	1920	73	10	5023	03 1950	19 0	5004	USGS 1980	DESTROYED
(C-29-11)14AAD2	BARNES	1952	210	16	5023	03 1953	23 0	5000	MOWER & CORDOVA 1974	
(C-29-11)14ABA	BARNES	1922	64	16	5018				MOWER & CORDOVA 1974	DESTROYED
(C-29-11)15ABC	COOK	1966	100	6	5007	01 1971	15 0	4992	MOWER & CORDOVA 1974	
(C-29-11)15ABD	COOK	1935	20	42	5007	12 1936	12 0	4995	USGS 1980	DESTROYED
(C-29-11)19CAA1	COOK	1938	60	6	5052	04 1940	45 0	5007	USGS 1980	DESTROYED
(C-29-11)19CAA2	COOK	1960	75	6	5052	10 1971	54 0	4998	MOWER & CORDOVA 1974	
(C-29-11)20BBB	BLM	1924	45	16	5018	01 1939	15 0	5003	USGS 1980	DESTROYED
(C-29-11)20DCD	BLM	1939	5	2	5007	10 1939	3 0	5004	USGS 1980	DESTROYED
(C-29-11)21CDD	COOK	1933		6	5012	10 1970	8 0	5004	MOWER & CORDOVA 1974	
(C-29-11)21DAD	COOK	1924	60	18	5021				USGS 1980	DESTROYED
(C-29-11)21DDD1	KIRK	1926	66	12	5026	10 1938	0 0	5026	USGS 1980	DESTROYED
(C-29-11)21DDD2	KIRK	1925	70	12	5026				USGS 1980	DESTROYED
(C-29-11)22ACD	CHRISTIANSEN	1927	90	14	5024				USGS 1980	DESTROYED
(C-29-11)22ADA	CHRISTIANSEN		50		5026				USGS 1980	DESTROYED
(C-29-11)22ADD1	CHRISTIANSEN	1928	65	14	5028	04 1940	22.0	5006	MOWER & CORDOVA 1974	
(C-29-11)22ADD2	CHRISTIANSEN	1960	212	16	5028	07 1960	42.0	4986	MOWER & CORDOVA 1974	
(C-29-11)22CCD	KIRK	1925			5026				USGS 1980	DESTROYED
(C-29-11)22DDD	CHRISTIANSEN	1925	85	14	5035	03 1961	37 0	4998	USGS 1980	
(C-29-11)23BCD	TONN	1921	95	14	5033	12 1950	25 0	5008	USGS 1980	DESTROYED
(C-29-11)23BDD	TONN	1950	204	16	5037		31.0	5006	MOWER & CORDOVA 1974	
(C-29-11)23CAD2	CHRISTIANSEN	1953	200	14	5039	10 1953	34 0	5005	MOWER & CORDOVA 1974	
(C-29-11)24BCD	TONN	1921	95	14	5033	12 1950	25 0	5008	USGS 1980	DESTROYED
(C-29-11)27AAD	MARSHALL	1955	204	16	5039	08 1955	37 0	5002	MOWER & CORDOVA 1974	
(C-29-11)27ADD2	MARSHALL	1948	118	14	5043				MOWER & CORDOVA 1974	
(C-29-11)27BAD1	MARSHALL	1930	70	12	5032				MOWER & CORDOVA 1974	DESTROYED
(C-29-11)27BAD2	MARSHALL	1949	200	6	5032	12 1951	23 0	5009	MOWER & CORDOVA 1974	
(C-29-11)27BDA	MARSHALL	1951	189	14	5032	06 1951	28 ?	5004	MOWER & CORDOVA 1974	
(C-29-11)27BDD2	MARSHALL	1951	155	14	5034	06 1951	29 0	5005	MOWER & CORDOVA 1974	
(C-29-11)27CAD	MARSHALL	1948	300	16	5037	05 1948	39 0	4998	USGA 1980	DESTROYED
(C-29-11)27CDA	MARSHALL	1955	216	16	5037	08 1955	32 0	5005	MOWER & CORDOVA 1974	
(C-29-11)27DAD	MARSHALL	1948	300	16	5045	03 1979	61 0	4984	USGS 1980	
(C-29-11)27DCB	MARSHALL	1928	68	12	5038	02 1938	29 0	5009	MOWER & CORDOVA 1974	
(C-29-11)28AAD2	JEPPSON	1950	202	12	5026	12 1951	18 0	5008	MOWER & CORDOVA 1974	
(C-29-11)28ABC	JEPPSON	1959	259	16	5025	06 1959	28 0	4997	MOWER & CORDOVA 1974	
(C-29-11)28ADD2	KESLER	1948	196	12	5028	04 1950	21 0	5007	MOWER & CORDOVA 1974	
(C-29-11)28DAA	KESLER		140	6	5028				MOWER & CORDOVA 1974	
(C-29-11)29ADA	BLM		66		5021	09 1936	15 0	5006	USGS 1980	DESTROYED
(C-29-11)29BBA	BLM				5008	05 1951	2 0	5006	USGS 1980	DESTROYED
(C-29-11)29DDD	BLM	1926	70	16	5025	09 1935	17 0	5008	USGS 1980	DESTROYED
(C-29-11)32ADD	MINERSVILLE	1925	70	12	5025				USGS 1980	DESTROYED
(C-29-11)33ACB	VESPIGUANI	1926	30		5031				USGS 1980	DESTROYED
(C-29-11)33BCC	COPPERKING	1918	25	2	5026				USGS 1980	DESTROYED
(C-29-11)33BDD	COPPERKING	1926			5033				USGS 1980	DESTROYED
(C-29-11)33CAA	COPPERKING	1918	25	2	5032				USGS 1980	DESTROYED
(C-29-11)33CBA	COPPERKING	1925	70	12	5031				USGS 1980	DESTROYED
(C-29-11)33CDD	COPPERKING		90		5030				USGS 1980	DESTROYED
(C-29-11)34ADA	BLM				5047				USGS 1980	DESTROYED
(C-29-11)35ADC	BLM		94		5063	12 1954	59 0	5004	USGS 1980	DESTROYED
(C-29-11)35CAB	BLM				5055	03 1957	48 0	5007	USGS 1980	DESTROYED
(C-29-12)31BAA	BLM				5440	01 1972	170 0	5270	USGS 1980	
(C-29-12)32AAA				6	5270	08 1972	245 0	5025	MOWER & CORDOVA 1974	
(C-29-12)35DDD	BLM	1953	102	4	5095	10 1974	90 0	5005	USGS 1980	

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(C-29-12)36CBB	BLM			8	5110	11 1970	103 0	5007	MOWER & CORDOVA 1974	
(C-29-13)31CCC	BLM		480	6	5442		390 0	5052	MOWER & CORDOVA 1974	
(C-30-10) 2AAD	EYRE	1910	100	6	5282				USGS 1980	
(C-30-10) 4AAA	BLM	1953	161	4	5178	12 1953	127 0	5051	USGS 1980	
(C-30-10) 6BBB	BLM	1953	113	4	5096	10 1953	75 0	5021	MOWER & CORDOVA 1974	
(C-30-10) 6DDD	BLM	1953	140	4	5128	03 1979	119 0	5009	USGS 1980	
(C-30-10) 7BBA	GOODSON				5109	1927	93 0	5016	USGS 1980	DESTROYED
(C-30-10) 7CDD	GOODSON	1953	140	4	5109	11 1953	75 0	5034	MOWER & CORDOVA 1974	
(C-30-10) 8DDD	BLM	1953	167	4	5159	03 1979	127 0	5032	USGS 1980	
(C-30-10)10ABB	CARTER	1955	320	14	5202	10 1979	138 0	5064	USGS 1980	
(C-30-10)10BCD			165		5198	08 1953	122 0	5076	USGS 1980	DESTROYED
(C-30-10)11DDC	MARSHALL	1971	200	6	5267	04 1961	155 0	5112	MOWER & CORDOVA 1974	
(C-30-10)11DDD	MARSHALL	1919	172	4	5267	04 1940	142 0	5125	USGS 1980	DESTROYED
(C-30-10)12ACB	LDS	1956	100	6	5268	10 1979	10 0	5258	USGS 1980	
(C-30-10)12CDA	GRAY	1930	375	4	5303	09 1935	31 0	5272	USGS 1980	DESTROYED
(C-30-10)12DAD2	MINERSVILLE	1956	200		5315	03 1972	20 0	5295	MOWER & CORDOVA 1974	DESTROYED
(C-30-10)15BBC	MARSHALL	1931	165	2	5203				USGS 1980	DESTROYED
(C-30-10)16DDD	CARTER	1924	136	4	5180	04 1940	129 0	5051	USGS 1980	DESTROYED
(C-30-10)16DAA	CARTER	1955	194		5185				USGS 1980	DESTROYED
(C-30-10)17ADD	MINERSVILLE				5160				USGS 1980	
(C-30-10)19AAB	CARTER	1953	123	4	5141	11 1953	101 0	5040	USGS 1980	
(C-30-10)19ABD1	NET CRAW	1960	360	6	5140	10 1960	97 0	5043	MOWER & CORDOVA 1974	
(C-30-10)19ABD2	NET CRAW	1960	293	16	5140	03 1961	97 0	5043	MOWER & CORDOVA 1974	
(C-30-10)31CAB	BLM	1964	400	6	5347	10 1964	307 0	5040	MOWER & CORDOVA 1974	
(C-30-11) 4BAA	MINERSVILLE	1953	299	16	5031	03 1979	39 0	4992	USGS 1980	
(C-30-11) 4CDD1	GATES		34		5040	03 1961	32 0	5008	USGS 1980	DESTROYED
(C-30-11) 4CDD2	GATES		42		5040	10 1935	42 0	4998	USGS 1980	DESTROYED
(C-30-11) 6CCC	BLM	1939	13	2	5019	10 1939	9 0	5010	USGS 1980	DESTROYED
(C-30-11) 8ADD	BLM		100		5040	04 1940	27 0	5013	USGS 1980	DESTROYED
(C-30-11) 8BAA	MINERSVILLE				5028	04 1940	18 0	5010	USGS 1980	DESTROYED
(C-30-11) 8DDC	GATES		78		5040	04 1940	28 0	5012	USGS 1980	DESTROYED
(C-30-11) 9CDD	GATES				5044	11 1970	41 0	5003	USGS 1980	
(C-30-11)10CBB	BLM		95		5055	04 1940	43 0	5012	USGS 1980	DESTROYED
(C-30-11)12BBB	BLM	1953	112	4	5081	03 1979	74 0	5007	USGS 1980	
(C-30-11)17CCC	BLM				5032	1927	21 0	5011	USGS 1980	DESTROYED
(C-30-11)18AAA	BLM	1971	630	6	5031	07 1971	26 0	5005	MOWER & CORDOVA 1974	
(C-30-11)18CDD	BLM				5034	11 1941	21 0	5013	USGS 1980	DESTROYED
(C-30-11)19ABB	BLM				5036	1927	23 0	5013	USGS 1980	DESTROYED
(C-30-11)20ADD	BLM				5049	1927	30 0	5019	USGS 1980	DESTROYED
(C-30-11)20CDC	BLM				5055	1927	37 0	5018	USGS 1980	DESTROYED
(C-30-11)21CDD	GATES				5075	1927	40 0	5035	USGS 1980	DESTROYED
(C-30-11)22DAA	BLM		92		5064	04 1940	47 0	5017	USGS 1980	DESTROYED
(C-30-11)22DDC	BLM	1935	165	6	5124	01 1935	102 0	5022	MOWER & CORDOVA 1974	
(C-30-11)24CCB	MINERSVILLE	1953	112	4	5129	03 1979	49 0	5080	USGS 1980	
(C-30-11)3CDDA	BLM	1953	125	4	5098	10 1979	91 0	5007	USGS 1980	
(C-30-12) 2CDD	POSIK	1935		10	5061				USGS 1980	DESTROYED
(C-30-12) 3DDA	POSIK	1935		38	5061	12 1970	51 0	5010	MOWER & CORDOVA 1974	
(C-30-12) 4ADD	POSIK	1923		48	5134	11 1961	112.0	5022	USGS 1980	DESTROYED
(C-30-12) 6CCA	BLM	1935	537	6	5280	10 1935	230 0	5050	MOWER & CORDOVA 1974	DESTROYED
(C-30-12) 8ADD	BLM				5012				USGS 1980	DESTROYED
(C-30-12) 8CAD	MINERSVILLE	1916	100		5135				USGS 1980	DESTROYED
(C-30-12) 8DAC	MINERSVILLE				5115				USGS 1980	DESTROYED
(C-30-12) 9AAD	LARSEN	1925			5068				MOWER & CORDOVA 1974	DESTROYED
(C-30-12) 9ADD	LARSEN	1940	50	10	5065				MOWER & CORDOVA 1974	
(C-30-12) 9CAA1	MINERSVILLE		61		5078				USGS 1980	DESTROYED
(C-30-12) 9CAA2	MINERSVILLE	1916	100		5078				USGS 1980	DESTROYED
(C-30-12) 9DAA1	MINERSVILLE		32		5052	04 1940	29 0	5023	USGS 1980	DESTROYED
(C-30-12) 9DAA2	MINERSVILLE				5053				USGS 1980	DESTROYED
(C-30-12)10AAA1	HAMMOND		33		5048	04 1940	31 0	5017	USGS 1980	DESTROYED
(C-30-12)10AAA2	HAMMOND	1927	125	3	5048				USGS 1980	DESTROYED
(C-30-12)10ABB	HAMMOND		41		5061	04 1940	39 0	5022	USGS 1980	DESTROYED
(C-30-12)10ADD	HAMMOND		41						USGS 1980	DESTROYED
(C-30-12)11ACB	APPLEMAN	1922	30	48	5032				USGS 1980	DESTROYED
(C-30-12)11BAD	UNION PACIFIC	1905	401	12	5032	1905	27 0	5005	MOWER & CORDOVA 1974	
(C-30-12)11BBB	BARNES	1920	35	48	5049	10 1935	32 0	5017	USGS 1980	DESTROYED
(C-30-12)12ABB	LINDMAN				5021				USGS 1980	DESTROYED
(C-30-12)12BBB1	MINERSVILLE		4		5029	11 1935	17 0	5012	USGS 1980	DESTROYED
(C-30-12)12BBB2	MINERSVILLE		14		5029				USGS 1980	DESTROYED
(C-30-12)12CBB	LINDMAN				5023	1927	10 0	5013	USGS 1980	DESTROYED
(C-30-12)13BCB	MINERSVILLE		43	2	5023	10 1939	9 0	5014	MOWER & CORDOVA 1974	
(C-30-12)17ADD	MINERSVILLE		62		5085				USGS 1980	DESTROYED
(C-30-12)18CDD	BLM		72		5123				USGS 1980	DESTROYED
(C-30-12)18CCC1	MINERSVILLE		90		5121				USGS 1980	DESTROYED
(C-30-12)18CCC2	MINERSVILLE	1915	60		5120				USGS 1980	DESTROYED
(C-30-12)19CDB	NELL	1915	30	72	5043				USGS 1980	DESTROYED
(C-30-12)20AAA	MC CARTER		47		5070	11 1941	45 0	5025	USGS 1980	DESTROYED
(C-30-12)21CDC	BLM	1971	857	6	5035	07 1971	13 0	5022	MOWER & CORDOVA 1974	
(C-30-12)22AAD	BLM	1939	10	2	5024	10 1939	7 0	5017	USGS 1980	DESTROYED
(C-30-12)23DDD	FARR	1924	50	42	5068	1927	48 0	5020	USGS 1980	DESTROYED
(C-30-12)24DCC1	MINERSVILLE	1919	71	48	5072				USGS 1980	DESTROYED
(C-30-12)24DCC2	MINERSVILLE	1916	60		5072				USGS 1980	DESTROYED
(C-30-12)24DDD1	MINERSVILLE		30		5070				USGS 1980	DESTROYED
(C-30-12)24DDD2	MINERSVILLE	1918	60		5070				USGS 1980	DESTROYED
(C-30-12)25BBB	BLM				5078				USGS 1980	DESTROYED
(C-30-12)27CBB	BLM				5030	11 1925	19 0	5011	USGS 1980	DESTROYED

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(C-30-12)28BAC	MINERSVILLE	1939	4	2	5034	10 1939	4 0	5030	USGS 1980	DESTROYED
(C-30-12)28CAB	MINERSVILLE	1939	10	2	5033	10 1939	5 0	5028	USGS 1980	DESTROYED
(C-30-12)29DDA	BLM	1939	10	2	6039	10 1939	8 0	5031	USGS 1980	DESTROYED
(C-30-12)30CCB	UTAH				5042	1927	28 0	5014	USGS 1980	DESTROYED
(C-30-12)31BCB	MINERSVILLE		43		5023	10 1939	9 0	5014	USGS 1980	DESTROYED
(C-30-12)31BCC	MINERSVILLE		34		5054				USGS 1980	DESTROYED
(C-30-12)[illegible]	MINERSVILLE	1914	37	42	5055	1927	22 0	5033	USGS 1980	DESTROYED
(C-30-12)31DDC1	MINERSVILLE	1913	20	48	5054	04 1938	16 0	5038	USGS 1980	DESTROYED
(C-30-12)31DDC2	MINERSVILLE	1918	60		5054				USGS 1900	DESTROYED
(C-30-12)31C3A	DILKEY	1923	40	48	5055				USGS 1980	DESTROYED
(C-30-12)33AC	SMITH				5048				USGS 1980	DESTROYED
(C-30-12)33BD	SMITH		17		5050				USGS 1980	DESTROYED
(C-30-12)3[illegible]DC					5290				USGS 1980	DESTROYED
(C-30-13) 2CCC	LAMOREAUX	1950	323	6	5310	09 1950	271 0	5039	MOWER & CORDOVA 1974	
(C-30-13) 5DAA	GUYMON	1949	263	6	5277				MOWER & CORDOVA 1974	
(C-30-13)14CCC	COOK			6	5189	08 1971	150 0	5039	MOWER & CORDOVA 1974	
(C-30-13) 18DDD	GUYMON	1918	209	6	5220	04 1940	172 0	5048	MOWER & CORDOVA 1974	
(C-30-13)20DDB1	GUYMON	1915	160	12	5148	04 1940	105 0	5043	USGS 1980	DESTROYED
(C-30-13)20DDB2	GUYMON	1968	149	6	5147	12 1968	106 0	5041	MOWER & CORDOVA 1974	
(C-30-13)21CDC	GUYMON	1914	90	42	5110				USGS 1980	DESTROYED
(C-30-13)21CDD	GUYMON				5123	04 1940	93 0	5030	USGS 1980	
(C-30-13)22DDD	LAMOREAUX	1921	90	16	5101	04 1940	64 0	5037	MOWER & CORDOVA 1974	
(C-30-13)23DDD	COOK		50		5130				USGS 1980	DESTROYED
(C-30-13)2[illegible]DD	COOK	1913	75	12	5094	11 1970	53 0	5041	MOWER & CORDOVA 1974	
(C-30-13)24CBD	WHITE		85		5105				USGS 1980	DESTROYED
(C-30-13)24CCC	COOK	1913	185	8	5073				USGS 1980	DESTROYED
(C-30-13)25ABB	COOK		74		5072				MOWER & CORDOVA 1974	
(C-30-13)25DDD	COOK				5043	09 1941	8 0	5035	USGS 1980	DESTROYED
(C-30-13)26ABA	COOK				5075				USGS 1980	DESTROYED
(C-30-13)27CCC	HARRIS		37		5085	04 1940	35 0	5050	USGS 1980	DESTROYED
(C-30-13)28CCC	GUYMON				5092				USGS 1980	DESTROYED
(C-30-13)29CCC	GUYMON		185	6	5102	07 1938	56 0	5046	MOWER & CORDOVA 1974	
(C-30-13)32DDD1	GUYMON	1919	87	60	5130	04 1940	86 0	5044	USGS 1980	DESTROYED
(C-30-13)32DDD2	GUYMON			6	5128	11 1970	84 0	5044	MOWER & CORDOVA 1974	
(C-30-13)33CCC	GUYMON				5100	09 1941	59 0	5041	USGS 1980	DESTROYED
(C-30-13)33[illegible]BB	COOK	1913	90	12	5091	04 1940	50 0	5041	MOWER & CORDOVA 1974	
(C-30-13)33[illegible]AD	COOK	1913	85	12	5085				USGS 1980	DESTROYED
(C-30-13)34ABA	COOK	1916	144	12	5086	03 1976	44 0	5042	USGS 1980	
(C-30-13)34ABB	COOK	1914	90	12	5088	04 1940	46 0	5042	MOWER & CORDOVA 1974	DESTROYED
(C-31-12) 3DDD	NADA	1950	175	6	5215				USGS 1980	DESTROYED
(C-31-12) 4DDD	NADA	1950	132	6	5140	11 1961	108 0	5032	MOWER & CORDOVA 1974	
(C-31-12) 6CAB	ROSSI				5064				USGS 1980	DESTROYED
(C-31-12) 9ABB	KEITH			48	5122	11 1939	76 0	5046	USGS 1980	DESTROYED
(C-31-12) 9CBC	BONNER		62	60	5108	11 1939	60 0	5048	USGS 1980	DESTROYED
(C-31-12)17BCC	MCGUIRE			48	5081				USGS 1980	DESTROYED
(C-31-12)17DCB	BONNER		49	48	5094	08 1939	46.0	5048	MOWER & CORDOVA 1974	
(C-31-13) 1AAA	STEPHENSON	1927	150		5070	09 1938	27.0	5043	USGS 1980	DESTROYED
(C-31-13) 1DBB	STEPHENSON	1928	114	12	5071	03 1938	28.0	5043	MOWER & CORDOVA 1974	
(C-31-13) 4BCC1	BEEHIVE	1930	40	10	5072	07 1941	28.0	5044	USGS 1980	DESTROYED
(C-31-13) 4BCC2	BEEHIVE	1931	94	12	5072	11 1961	28.0	5044	MOWER & CORDOVA 1974	
(C-31-13) 4CDD	HAMMERMAN		36	42	5071	03 1938	24.0	5047	USGS 1980	DESTROYED
(C-31-13) 5CCC	GRANT			36	5110				USGS 1980	DESTROYED
(C-31-13) 6ADC	BEEHIVE	1915	84	8	5105	08 1939	50.0	5055	MOWER & CORDOVA 1974	
(C-31-13) 6BAC	BEEHIVE	1915	68	48	5112				USGS 1980	DESTROYED
(C-31-13) 7ADD	BEEHIVE	1915	71	48	5113				USGS 1980	DESTROYED
(C-31-13) 7DDA	BEEHIVE		60	48	5112	04 1940	58 0	5054	USGS 1980	DESTROYED
(C-31-13) 8CCB	GRANT			12	5109				USGS 1980	DESTROYED
(C-31-13) 8DBC	GRANT	1908	40	36	5087	03 1938	37 0	5050	USGS 1980	DESTROYED
(C-31-13)10DAA	REPUBLIC	1977	475	1	5066				USGS 1980	
(C-31-13)17ABB				8					USGS 1980	DESTROYED
(C-31-13)18AAD	BEEHIVE	1961	101	6	5117	05 1962	62 0	5055	MOWER & CORDOVA 1974	
(C-31-14) 1AAA	BEEHIVE	1921	75	48	5115				USGS 1980	DESTROYED
(C-31-14) 9BCD	BLM	1928	47	6	5508	04 1940	43 0	5465	USGS 1980	
(C-31-14) 9BDB	BLM				5504	07 1976	43 0	5461	USGS 1980	
(C-31-14)16DDA	REPUBLIC	1977	495	1	5430				USGS 1980	

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(C-31-12)19CCC1	BLM	1915			5099	10 1962	50.0	5049	USGS 1980	DESTROYED
(C-31-12)19CCC2			55		5099				USGS 1980	DESTROYED
(C-31-12)30CDD1	NADA	1917	80		5138	08 1939	68.0	5070	USGS 1980	DESTROYED
(C-31-12)31CDD2	NADA	1952	113		5138	03 1979	77.0	5061	USGS 1980	
(C-31-13)20DAC	REPUBLIC	1977	490	1	5085				USGS 1980	
(C-31-13)21ABB	BLM		23		5074	11 1935	22.0	5052	USGS 1980	DESTROYED
(C-31-13)22DCB	HENDERSON	1915	37	48	5089	11 1935	35.0	5054	USGS 1980	DESTROYED
(C-31-13)23BBB	NADA	1950	65	6	5081	03 1978	30.0	5051	USGS 1980	
(C-31-13)27BCD1	COUCH	1918	252		5095	10 1945	31.0	5064	USGS 1980	DESTROYED
(C-31-13)27BCD2	COUCH		43		5096				USGS 1980	DESTROYED
(C-31-13)31BCB	BLM	1978	85	6	5107	03 1979	48.0	5059	USGS 1980	
(C-31-13)31CDC		1976	30	2	5088	09 1978	29.0	5059	USGS 1980	
(C-31-13)33CCC	EVANS	1918	43	48	5094	03 1978	35.0	5059	USGS 1980	DESTROYED
(C-31-14)24BDD1	MINOR	1930	125		5214				USGS 1980	DESTROYED
(C-31-14)24BDD2	MINOR	1942	207	5	5214	03 1978	158.0	5056	USGS 1980	
(C-31-14)25DCB	MINOR	1918	110		5147				USGS 1980	DESTROYED
(C-31-14)28CDD	WOOD	1927	157	6	5198	10 1978	139.0	5059	USGS 1980	
(C-32-12) 6CBB	LOWE	1922	69	60	5127	03 1977	61.0	5066	USGS 1980	
(C-32-12)31DAB	SCHOPPMANN				5177	05 1962	100.0	5077	USGS 1980	
(C-32-12)34ADB	BLM		175		5232				USGS 1980	
(C-32-12)34DDA	ADAMS	1895	144	16	5227	03 1943	11.0	5216	USGS 1980	DESTROYED
(C-32-12)35CCA	MOOSCHEKIAN	1914	60	12	5240				USGS 1980	DESTROYED
(C-32-13) 4ABA				36	5096	12 1948	37.0	5059	USGS 1980	DESTROYED
(C-32-13) 6BAA	HINZ			48	5088	03 1943	14.0	5074	USGS 1980	DESTROYED
(C-32-13) 7DCC		1925	60	8	5094	04 1940	55.0	5039	USGS 1980	DESTROYED
(C-32-13) 9AAC	WILSON	1963	308	17	5106	10 1978	42.0	5064	USGS 1980	
(C-32-13) 9ABD	WILSON	1977	100	4	5105	10 1978	41.0	5064	USGS 1980	
(C-32-13) 9ACA	WILSON	1977	107	2	5105	10 1978	41.0	5064	USGS 1980	
(C-32-13) 9ACD	WILSON	1900	55		5107				USGS 1980	DESTROYED
(C-32-13) 9BDD1	WILSON	1916	340	12	5105	04 1978	38.0	5067	USGS 1980	
(C-32-13) 9BDD2	WILSON	1920	50	42	5106	10 1978	41.0	5065	USGS 1980	
(C-32-13) 9BDD3	WILSON	1963	300	17	5105	10 1978	40.0	5065	USGS 1980	
(C-32-13) 9DDD1	WILSON	1963			5111				USGS 1980	DESTROYED
(C-32-13)10DDC	NADA	1953	60	60	5119				USGS 1980	DESTROYED
(C-32-13)14AAD	BLM		132	6	5130	07 1976	63.0	5067	USGS 1980	
(C-32-13)27BDD	BULLOCH	1968	171	6	5138	08 1976	63.0	5075	USGS 1980	
(C-32-13)30CCC	BLM	1976	42	2	5109	03 1979	35.0	5074	USGS 1980	
(C-32-13)30DAA	NELSON	1944	100	6	5112	11 1961	39.0	5073	USGS 1980	
(C-32-14)10CCD	CLICK	1900	33	48	5087	04 1944	25.0	5062	USGS 1980	DESTROYED
(C-32-14)10DCC1	BLM	1939	11	2	5077	12 1942	10.0	5067	USGS 1980	DESTROYED
(C-32-14)10DCC2	IRON	1976	13	2	5077	09 1978	11.0	5066	USGS 1980	
(C-32-14)13AAC	NELSON	1944	120	6	5095				USGS 1980	
(C-32-14)19ADB1	WOOD	1976	10	2	5082	09 1978	8.0	5074	USGS 1980	
(C-32-14)19ADB2	WOOD	1976	13	2	5086	09 1978	11.0	5075	USGS 1980	
(C-32-14)19BDD	ZIESMAN	1900	44	60	5130	04 1940	44.0	5086	USGS 1980	DESTROYED
(C-32-14)19DAB	WOOD	1976	15	2	5091	09 1978	14.0	5077	USGS 1980	
(C-32-14)21BAD	UNION PACIFIC	1925	764	8	5084				USGS 1980	
(C-32-14)21BCD	UNION PACIFIC	1903	585	12	5082	11 1975	7.0	5075	USGS 1980	
(C-32-14)28BBB	SECUR. TITLE	1900	35	12	5083	10 1979	4.0	5079	USGS 1980	
(C-32-14)30BAB	WOOD	1915	34		5119	03 1977	35.0	5084	USGS 1980	
(C-32-14)31CCA	SECUR TITLE	1920			5121				USGS 1980	DESTROYED
(C-32-14)32ADD1	SECUR TITLE	1939	13	2	5089	08 1942	13.0	5076	USGS 1980	DESTROYED
(C-32-14)32ADD2	SECUR TITLE		20	48	5089	03 1979	14.0	5075	USGS 1980	
(C-32-16)26ABB1	WOOD	1915	100		5522	10 1945	55.0	5467	USGS 1980	DESTROYED
(C-32-16)26ABB2	WOOD	1953	77	6	5520	09 1976	46.0	5474	USGS 1980	
(C-32-16)27ABB1	REBER		48		5670	03 1977	27.0	5643	USGS 1980	
(C-32-16)27ABB2	REBER	1947	84	6	5670	08 1947	28.0	5642	USGS 1980	
(C-32-16)27ABB3	REBER	1977	165	6	5670	09 1978	32.0	5638	USGS 1980	
(C-32-16)27ABC	REBER		46		5667	08 1976	46.0	5621	USGS 1980	
(C-32-16)28DBA	MATHESON	1915		48	5675	03 1977	12.0	5663	USGS 1980	
(C-32-16)33CBA	REBER	1968	34	8	5570	03 1978	7.0	5563	USGS 1980	
(C-33-12) 4BAA	MURIE	1927			5204	11 1961	86.0	5118	USGS 1980	
(C-33-12)11AAA1	BLM	1923	60	4	5282	04 1940	34.0	5248	USGS 1980	DESTROYED
(C-33-12)11AAA2	BLM		90		5282	03 1977	37.0	5245	USGS 1980	
(C-33-12)14DCA	MILNE	1900	65	48	5297	05 1940	44.0	5253	USGS 1980	DESTROYED
(C-33-12)14DDB	MILNE	1965	136	6	5296	03 1977	49.0	5247	USGS 1980	
(C-33-12)17ABD	MURIE	1925	226	3	5247	03 1977	113.0	5134	USGS 1980	
(C-33-12)18BDA	PERKINS	1925		4	5204	03 1977	86.0	5118	USGS 1980	
(C-33-12)20CCC	BLM	1900		3	5223				USGS 1980	DESTROYED
(C-33-12)21AAD	MURIE	1967	252	6	5328	03 1977	93.0	5235	USGS 1980	
(C-33-12)21BBB	BLM	1918	136	3	5288	03 1977	126.0	5162	USGS 1980	
(C-33-12)29ADB	NELSON	1915		4	5299	03 1979	126.0	5173	USGS 1980	
(C-33-12)30CDD		1919		3	5213				USGS 1980	
(C-33-13) 3[illegible]AA1	SCHOPPMANN	1941	168	6	5147	03 1979	66.0	5081	USGS 1980	DESTROYED
(C-33-13) 3[illegible]AA2	SCHOPPMANN	1918	168	6	5147	07 1976	66.0	5081	USGS 1980	
(C-33-13)17CCC1	BLM		63	6	5147				USGS 1980	
(C-33-13)26BAB	LEIGH			6	5175				USGS 1980	
(C-33-13)31ABD	UNION PACIFIC	1923	93	6	5167	10 1941	37.0	5130	USGS 1980	
(C-33-14) 4CCC1	UTAH	1949	11	2	5094	09 1949	10.0	5084	USGS 1980	DESTROYED
(C-33-14) 4CCC2	UTAH	1976	15	2	5094	04 1978	13.0	5081	USGS 1980	
(C-33-14) 6ACB2	SECUR TITLE	1900			5108				USGS 1980	
(C-33-14) 6ACB3	SECUR TITLE	1976			5109	10 1979	20.0	5089	USGS 1980	
(C-33-14) 8CCC1	SECUR TITLE	1973	155	8	5090	03 1977	19.0	5071	USGS 1980	
(C-33-14) 8CCC2	BLM	1939	10	2	5093	09 1949	9.0	5084	USGS 1980	DESTROYED
(C-33-14)15DBD	BLM	1935	140	6	5118	09 1949	31.0	5087	USGS 1980	DESTROYED
(C-33-14)17DBA	BLM	1976	21	2	5098	09 1978	16.0	5082	USGS 1980	

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo yr)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-33-14)17DDD1	BLM	1945			5110	09 1978	21 0	5089	USGS 1980	
(C-33-14)17DDD2	BLM	1976	27	2	5108				USGS 1980	
(C-33-14)19ADB	BLM	1939	7	2	5095	10 1939	6 0	5089	USGS 1980	DESTROYED
(C-33-14)20CCB	JONES			6	5102	10 1977	10 0	5092	USGS 1980	
(C-33-14)21DDA	JONES	1976	42	2	5123				USGS 1980	
(C-33-14)22BCC	JONES				5121				USGS 1980	DESTROYED
(C-33-14)36DDB	JONES	1924	160	6	5166	10 1978	70 0	5096	USGS 1980	
(C-33-14)8CCC2	BLM	1976	13	2	5093	09 1978	9 0	5084	USGS 1980	
(C-33-15) 1AAA	SHURE	1900		36	5127				USGS 1980	DESTROYED
(C-33-15) 1DAA		1900		42	5118				USGS 1980	DESTROYED
(C-33-15) [illegible]AA	SOHNIUS	1900	75		5183	11 1941	74 0	5109	USGS 1980	DESTROYED
(C-33-15) [illegible]BCD	WOOD	1915	180	48	5316				USGS 1980	DESTROYED
(C-33-15) 6DDD1	WOOD	1953	196	6	5282	03 1978	170 0	5112	USGS 1980	
(C-33-15) 6DDD2	WOOD	1977	200	8	5282	03 1978	173 0	5109	USGS 1980	
(C-33-15) 7CCC1	LDS	1917	129	4	5241				USGS 1980	DESTROYED
(C-33-15) 7CCC2	LDS	1953	200	8	5241	07 1976	127 0	5114	USGS 1980	
(C-33-15) [illegible]AA	LDS	1975	200	6	5246	03 1978	135 0	5111	USGS 1980	
(C-33-15)1[illegible]AC	BURNS	1920	51	20	5173	06 1937	51 0	5122	USGS 1980	DESTROYED
(C-33-15)11BBC	BURNS	1915	59	42	5154	06 1937	59 0	5095	USGS 1980	DESTROYED
(C-33-15)12AAA	BLM	1939		2	5111	03 1976	14 0	5097	USGS 1980	
(C-33-15)12DDD1	STEELE	1949	15		5112	09 1949	12 0	5100	USGS 1980	DESTROYED
(C-33-15)12DDD2	STEELE	1976	15	2	5112	09 1978	13 0	5099	USGS 1980	
(C-33-15)1[illegible]BB	DOROGI	1918	16	12	5106	04 1939	13 0	5093	USGS 1980	DESTROYED
(C-33-15)1[illegible]CB	DOROGI	1976	13	2	5103	09 1976	11 0	5092	USGS 1980	
(C-33-15)14AAA1	WESTMAN	1900			5112				USGS 1980	DESTROYED
(C-33-15)14AAA2	WESTMAN	1900			5112				USGS 1980	DESTROYED
(C-33-15)15BDB	BURNS	1922	34	42	5137				USGS 1980	DESTROYED
(C-33-15)17ACC	LDS	1917	89	48	5202				USGS 1980	DESTROYED
(C-33-15)17CCC	BURNS	1915	84	48	5190				USGS 1980	DESTROYED
(C-33-15)1[illegible]CCC	LDS	1917			5207				USGS 1980	DESTROYED
(C-33-15)1[illegible]CCD	UNION PACIFIC	1928	150		5203				USGS 1980	
(C-33-15)16DDD	LDS	1917	80	36	5189				USGS 1980	DESTROYED
(C-33-15)19BBA1	MAGUIRE	1921	87	48	5201	06 1937	86 0	5115	USGS 1980	DESTROYED
(C-33-15)19BBA2	MAGUIRE	1948	141	8	5200	03 1978	87 0	5113	USGS 1980	
(C-33-15)19BCC	MAGUIRE	1900	77	42	5189	03 1950	73 0	5116	USGS 1980	DESTROYED
(C-33-15)19CBB	PREY	1915	70		5184				USGS 1980	DESTROYED
(C-33-15)20CBB	BLM	1900	11	12	5169				USGS 1980	DESTROYED
(C-33-15)21BBB	BLM	1919	40	48	5151				USGS 1980	DESTROYED
(C-33-15)25BBB	BLM	1920	18	2	5101	10 1951	8 0	5093	USGS 1980	DESTROYED
(C-33-15)27CDA	BLM	1900	100	12	5116	12 1943	17 0	5099	USGS 1980	DESTROYED
(C-33-15)29CBB	CLAYTON	1900	20		5135				USGS 1980	DESTROYED
(C-33-15)31BBC	PAUL	1900	31		5132	05 1937	23 0	5109	USGS 1980	DESTROYED
(C-33-15)31BCC1	PAUL	1946	253	12	5134	10 1979	32 0	5102	USGS 1980	
(C-33-15)31BCC2	PAUL	1900		6	5134				USGS 1980	
(C-33-15)31CBB1	FOSTER	1900	53	8	5133	10 1968	28 0	5105	USGS 1980	DESTROYED
(C-33-15)31CBB2	FOSTER	1900	26		5133				USGS 1980	DESTROYED
(C-33-15)33DCB2	LDS	1900	7		5112				USGS 1980	DESTROYED
(C-33-15)34DDD	BLM	1939	10	2	5105	05 1939	8 0	5097	USGS 1980	DESTROYED
(C-33-15)35BBB	REED	1919	40		5105				USGS 1980	DESTROYED
(C-33-15)36CCC1	BLM	1939	9	2	5104	05 1939	0 0		USGS 1980	DESTROYED
(C-33-15)36CCC2	BLM	1976	14	2	5104	09 1978	9 0	5095	USGS 1980	
(C-33-16) 7CDC	WOOD	1900	198	5	5314				USGS 1980	
(C-33-16) 8DCC1	PAGE	1948		6	5275	10 1977	145 0	5130	USGS 1980	
(C-33-16) 8DCC2	PAGE	1957	242	7	5275	06 1957	120 0	5155	USGS 1980	
(C-33-16)10CCC1	CAL HOME	1918	125	3	5227	10 1962	94 0	5133	USGS 1980	DESTROYED
(C-33-16)10CCC2	CAL HOME	1937	122	6	5227	03 1977	92 0	5135	USGS 1980	
(C-33-16)10CCC3	CAL HOME	1976	208	8	5227	10 1977	96 0	5131	USGS 1980	
(C-33-16)11BAC	WOOD	1915	120	4	5213				USGS 1980	DESTROYED
(C-33-16)11CDC	WOOD	1915	119	6	5214	05 1937	92 0	5122	USGS 1980	
(C-33-16)1[illegible]CD	LDS	1928		42	5199				USGS 1980	DESTROYED
(C-33-16)13DDD	LDS	1900	91	48	5203	06 1937	87 0	5116	USGS 1980	DESTROYED
(C-33-16)14DCB	WOOD	1952	200	16	5202	09 1976	88 0	5114	USGS 1980	
(C-33-16)14DDD	WOOD	1918	100		5198				USGS 1980	DESTROYED
(C-33-16)15ABB	PAGE	1916	85		5214				USGS 1980	DESTROYED
(C-33-16)17CBB	MACKELPRANG	1918		36	5260	07 1979	122 0	5138	USGS 1980	DESTROYED
(C-33-16)19DDD	MACKELPRANG	1900	68	60	5201	11 1935	66 0	5135	USGS 1980	DESTROYED
(C-33-16)22DCD1	BURNS	1927	58	36	5163	03 1977	44 0	5119	USGS 1980	
(C-33-16)22DCD2	BURNS	1915			5163				USGS 1980	DESTROYED
(C-33-16)22DDA	BURNS	1932	86	48	5168	07 1979	47 0	5121	USGS 1980	DESTROYED
(C-33-16)2[illegible]AB	WOOD	1948		4	5195	10 1978	87 0	5108	USGS 1980	
(C-33-16)2[illegible]AA	WOOD	1947	287	14	5193	09 1976	80 0	5113	USGS 1980	
(C-33-16)23CBA	WOOD	1900		6	5186	07 1976	70 0	5116	USGS 1980	
(C-33-16)24CCA1	BURNS	1954	700	14	5174	11 1954	15 0	5159	USGS 1980	
(C-33-16)24CCA2	BURNS	1963	200	14	5174	09 1963	62 0	5112	USGS 1980	
(C-33-16)24CAA	MARKWITH	1914	60	60	5185				USGS 1980	DESTROYED
(C-33-16)25AAA	THOMAS	1917	62	48	5172				USGS 1980	DESTROYED
(C-33-16)2[illegible]BA	BURNS	1900	82	6	5170	05 1937	55 0	5115	USGS 1980	
(C-33-16)26ABA1	TUCKER	1916	64	6	5168				USGS 1980	
(C-33-16)26ABA2	TUCKER	1975	154	4	5168	05 1975	54 0	5114	USGS 1980	
(C-33-16)29BCB	MACKELPRANG	1933	96	18	5185	10 1941	49 0	5136	USGS 1980	
(C-33-16)29CDB	ANZALONE	1900		12	5161	06 1937	27 0	5134	USGS 1980	DESTROYED
(C-33-16)29CDD	ANZALONE				5151	03 1978	24 0	5127	USGS 1980	DESTROYED
(C-33-16)29CDD	SAYLIN	1922	80	48	5144				USGS 1980	DESTROYED
(C-33-16)30[illegible]AC	MACKELPRANG	1949	150	14	5200	03 1979	66 0	5134	USGS 1980	

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-33-16 3[illegible]DA	MACKELPRANG	1900	40	48	5186				SGS 1980	DESTROYED
-33-16 3[illegible]AB	LARSEN	1953	106	12	5181	07 1953	46 0	5135	SGS 1980	
(C-33-16)32ABA	UNION PACIFIC	1905	172	13	5147	09 1939	16 0	5131	SGS 1980	
(C-33-16)32BBB	WHALEY	1973	180	6	5162	09 1973	16 0	5146	SGS 1980	
(C-33-16)35CAD	SMITH	1900			5147				SGS 1980	DESTROYED
(C-33-16)36CBA	SO UTAH LAND	1900			5146				SGS 1980	DESTROYED
-33-16 36CBA	WHIPPLE	1975	181	6	5132	01 1975	31 0	5101	SGS 1980	
-33-17 [illegible]CC	LARSEN	1916	185	8	5331	04 1962	165 0	5136	USGS 1980	
-33-17 20CBB	HART	1951	230	8	5355	08 1976	185 0	5170	USGS 1980	
-33-17 24DDA	MACKELPRANG	1925		42	5233				USGS 1980	DESTROYED
-33-17 25ADD1	LARSEN	1924	112	8	5195	03 1977	62 0	5133	USGS 1980	
-33-17 25ADD2	LARSEN	1951	138	14	5198	11 1951	62 0	5136	USGS 1980	
-33-17 25ADD3	LARSEN	1967	150	8	5195	10 1967	60 0	5135	USGS 1980	
-33-17 2[illegible]CD	HART	1915	86	7	5208	08 1976	76 0	5132	USGS 1980	
-33-17 27[illegible]DD	HART	1915	123	10	5245				USGS 1980	DESTROYED
-33-17 29CCB	HART	1915	150	8	5249	09 1935	108 0	5141	USGS 1980	DESTROYED
-33-17 31CAA	HART	1900	110		5300	05 1937	108 0	5192	USGS 1980	
-33-17 [illegible]	THORLEY	1918	150	0	5245				USGS 1980	DESTROYED
-33-17 [illegible]CBB	THORLEY	1900		6	5235				USGS 1980	DESTROYED
-33-17 34[illegible]BB	HART	1918	71		5223				USGS 1980	DESTROYED
-33-17 34CAA	BLM	1900	53		5223				USGS 1980	DESTROYED
-33-17 35CDC	LARSEN	1900	20		5180				USGS 1980	DESTROYED
-33-18 35CDD	BLM		240	6	5370	03 1978	230 0	5140	USGS 1980	
-34-12 22CAD1	MC CULLOCH	1976			5127				USGS 1980	GEOTHERMAL
-34-13 [illegible]DD	LEIGH	1956	309	6	5255	06 1956	98 0	5157	USGS 1980	
-34-13 [illegible]BD	LEIGH	19[illegible]	126	6	5209	07 1976	85 0	5124	USGS 1980	
-34-13 2[illegible]BD1		1977	242	8	5211	03 1977	81 0	5130	USGS 1980	
-34-13 2[illegible]BD2		1977	107	2	5208	08 1977	78 0	5130	USGS 1980	
-34-13 [illegible]CA1	MC CULLOCH	1977	5857		5212				USGS 1980	GEOTHERMAL
-34-13 2[illegible]CA2		1977	101	2	5210	07 1977	81 0	5129	USGS 1980	
-34-13 12[illegible]CA	LEIGH	1967	160	6	5238				USGS 1980	
-34-13 1[illegible]CC	SCHOPPMANN	1955	172	6	5228	07 1976	99 0	5129	USGS 1980	
-34-13 22ABD	LEIGH	1942			5256	07 1976	116 0	5140	USGS 1980	
-34-14 [illegible]BD	JONES	1977	149	6	5167	05 1977	58 0	5109	USGS 1980	
-34-14 [illegible]CB	JONES	1976	14	2	5101	09 1976	12 0	5089	USGS 1980	
-34-14 [illegible]BD	JONES	1976	10	2	5175				USGS 1980	
-34-14 24AAC1	JONES	1925	360	4	5202				USGS 1980	
-34-14 24AAC2	JONES	1976	300	6	5202	03 1977	85 0	5117	USGS 1980	
-34-14 29ACB	UTAH	1976	39	2	5141	11 1976	33 0	5108	USGS 1980	
-34-14 31[illegible]CA	LA ASDER	1971	233	8	5128	03 1972	20 0	5108	USGS 1980	
-34-14 31CCC1	IRON COUNTY	1939	20	2	5127	10 1939	14 0	5113	USGS 1980	DESTROYED
-34-14 31CCC2	IRON COUNTY	1976	28	2	5127	10 1979	25 0	5102	USGS 1980	
(C-34-15) 1ABB	UTAH	1976	11	2	5100	09 1976	5 0	5095	USGS 1980	
(C-34-15) 1ADA1	JONES	1888	110	2	5102	09 1935	3 0	5099	USGS 1980	DESTROYED
(C-34-15) 1ADA2	JONES	1939	6	2	5102	12 1942	3 0	5099	USGS 1980	DESTROYED
(C-34-15) 1ADA3	JONES	1970	150	8	5101	07 1976	3 0	5098	USGS 1980	
(C-34-15) 1BAC	JONES	1977	20	2	5102	06 1977	7 0	5095	USGS 1980	
(C-34-15) 1BAD1	JONES	1970	250	16	5103	10 1978	6 0	5097	USGS 1980	
(C-34-15) 1BAD2	JONES	1977	20	2	5102	06 1977	6 0	5096	USGS 1980	
(C-34-15) 6CBB2	GALIS	1900	11		5118	03 1943	3 0	5115	USGS 1980	DESTROYED
(C-34-15) 6CCC1	BRAMMAN	1900			5118				USGS 1980	DESTROYED
(C-34-15) 6CCC2	BRAMMAN	1949	10		5117	07 1949	9 0	5108	USGS 1980	DESTROYED
(C-34-15)10DDD1	BLM	1900	11	42	5113	04 1939	11 0	5102	USGS 1980	DESTROYED
(C-34-15)10DDD2	BLM	1976	20	2	5113	09 1978	17 0	5096	USGS 1980	
(C-34-15)11BBB	MC GARRY	1949	14		5109	07 1949	10 0	5099	USGS 1980	DESTROYED
(C-34-15)11DBA	FAYNE	1912	25	36	5111				USGS 1980	DESTROYED
(C-34-15)16CCC1	MC GARRY	1939			5117	09 1978	17 0	5100	USGS 1980	
(C-34-15)16CCC2	MC GARRY	1939	16	2	5117	06 1950	6 0	5111	USGS 1980	DESTROYED
(C-34-15)17BBB	BLM	1900	8	48	5117	04 1939	8 0	5109	USGS 1980	DESTROYED
(C-34-15)17CCB	FERRY	1924	7		5120				USGS 1980	DESTROYED
(C-34-15)18CCC1	MC GARRY	1949	9		5122	07 1949	7 0	5115	USGS 1980	DESTROYED
(C-34-15)18CCC2	MC GARRY	1976	24	2	5123	09 1978	22 0	5101	USGS 1980	
(C-34-15)18DDD	MC GARRY	1914	8		5118				USGS 1980	DESTROYED
(C-34-15)23BCC	BLM	1949	10		5118	07 1949	7 0	5111	USGS 1980	DESTROYED
(C-34-15)24AAD	SOHNIUS	1925			5125				USGS 1980	DESTROYED
(C-34-15)24DBA	JONES	1944	165	6	5124	08 1976	21 0	5103	USGS 1980	
(C-34-15)27DAA1	UTAH	1900		8	5124				USGS 1980	DESTROYED
(C-34-15)27DAA2	UTAH	1939	12		5124	12 1949	10 0	5114	USGS 1980	DESTROYED
(C-34-15)29CCC1	UTAH	1949	9		5125	09 1949	6 0	5119	USGS 1980	DESTROYED
(C-34-15)29CCC2	UTAH	1976	26	2	5125	10 1977	24 0	5101	USGS 1980	
(C-34-15)30BBB	HEINE	1949	7		5128				USGS 1980	DESTROYED
(C-34-15)31BBB	BILLINGS	1939	8		5130	05 1942	7 0	5123	USGS 1980	DESTROYED
(C-34-15)35AAA	L A COUNTY	1900		2	5127				USGS 1980	DESTROYED
(C-34-16) 1BBB	RUBINA	1917	20		5128				USGS 1980	DESTROYED
(C-34-16) 1DAA	BLM	1900			5119				USGS 1980	DESTROYED
(C-34-16) 2CBB	BURNS	1946	65	12	5128	03 1979	27 0	5101	USGS 1980	
(C-34-16) 7AAB	HELLYER	1900	24	6	5141	03 1977	19 0	5122	USGS 1980	
(C-34-16) 7CCC	SCHOW	1924	50	12	5143				USGS 1980	DESTROYED
(C-34-16) 7CCD	SCHOW	1921	65	12	5143	05 1937	11 0	5132	USGS 1980	DESTROYED
(C-34-16) 8ADD	LACY	1929	10	8	5133				USGS 1980	DESTROYED
(C-34-16) 9ACC	FINAFRICK	1900	34	8	5134	12 1942	11 0	5123	USGS 1980	DESTROYED
(C-34-16) 9CBC1	KOCH	1900	18	10	5132	03 1962	11 0	5121	USGS 1980	DESTROYED
(C-34-16) 9CBC2	KOCH	1977	20	2	5132	03 1978	17 0	5115	USGS 1980	
(C-34-16)10BAB	CROSSLEY	1900	11	36	5128	12 1950	10 0	5118	USGS 1980	DESTROYED

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(C-34-16)12DDD	BYCO	1949	7		5123	09 1949	6 0	5117	USGS 1980	DESTROYED
(C-34-16)13BBC	PAROLINI	1950	8		5122	09 1950	6 0	5116	USGS 1980	DESTROYED
(C-34-16)15CCC	ANASTASIA	1900	16	8	5128	12 1953	5 0	5123	USGS 1980	DESTROYED
(C-34-16)16CCC	MC NELLIS	1900			5131				USGS 1980	DESTROYED
(C-34-16)17ACC	ZELLER	1965	192	14	5133	06 1977	25 0	5108	USGS 1980	
(C-34-16)17ACD1	ZELLER	1914	20	10	5129	05 1937	5 0	5124	USGS 1980	
(C-34-16)17ACD2	ZELLER	1948		6	5129				USGS 1980	DESTROYED
(C-34-16)17ADC	ZELLER	1925	71	12	5132	10 1941	8 0	5124	USGS 1980	DESTROYED
(C-34-16)17BBB	ZELLER	1900		14	5138	06 1977	21 0	5117	USGS 1980	
(C-34-16)17BBC	ZELLER	1900		16	5138	06 1977	23 0	5115	USGS 1980	
(C-34-16)17CDA	SAYLIN	1969	193	10	5133	06 1977	26 0	5107	USGS 1980	
(C-34-16)17DCC	SAYLIN	1925	112	12	5131	03 1978	26 0	5105	USGS 1980	
(C-34-16)18AAC	SCOPES	1927		12	5138	09 1949	10 0	5128	USGS 1980	DESTROYED
(C-34-16)18BCC	SEWALL	1928	136	12	5141	12 1950	11 0	5130	USGS 1980	DESTROYED
(C-34-16)18CDB		1977	85	2	5137	07 1977	23 0	5114	USGS 1980	
(C-34-16)18CDC1	MC CULLOCH	1976	8073	7	5137	08 1976	160 0	4977	USGS 1980	
(C-34-16)18CDC2	MC CULLOCH	1976	230	8	5136	03 1979	29 0	5107	USGS 1980	
(C-34-16)18CDC3	MC CULLOCH	1977	85	2	5137	08 1977	24 0	5113	USGS 1980	
(C-34-16)19AAC	VOGT	1923		48	5135	09 1949	9 0	5126	USGS 1980	DESTROYED
(C-34-16)19BBC	MC BRIDE	1920	36	12	5140				USGS 1980	DESTROYED
(C-34-16)20AAA	LACY	1920	27		5132				USGS 1980	DESTROYED
(C-34-16)20CDD	SAYLIN	1900			5134				USGS 1980	DESTROYED
(C-34-16)20DCC	BLM	1928	110	12	5135	05 1937	6 0	5129	USGS 1980	DESTROYED
(C-34-16)21DCC		1926	26	1	5133	03 1961	16 0	5117	USGS 1980	DESTROYED
(C-34-16)22BAA1		1977	30	1	5127	08 1977	25 0	5102	USGS 1980	
(C-34-16)22BAA2		1977	85	2	5127	07 1977	25 0	5102	USGS 1980	
(C-34-16)22BAC		1977	85	2	5127	07 1977	25 0	5102	USGS 1980	
(C-34-16)22BAD1	MC CULLOCH	1976			5127	08 1976	26 0	5101	USGS 1980	
(C-34-16)23AAA	DEWEY	1949	8	2	5124	03 1950	5 0	5119	USGS 1980	DESTROYED
(C-34-16)26CCC	SAYLIN	1900	69	12	5135	09 1949	11 0	5124	USGS 1980	DESTROYED
(C-34-16)27BCC	SAYLIN	1900	88	12	5135	12 1950	11 0	5124	USGS 1980	DESTROYED
(C-34-16)27CCC	SAYLIN	1926	93	12	5135	05 1941	5 0	5130	USGS 1980	DESTROYED
(C-34-16)28ACB	HORSLEY	1933	24	9	5134				USGS 1980	DESTROYED
(C-34-16)28ACC2	HORSLEY		120	12	5135				USGS 1980	
(C-34-16)28ACC3	HORSLEY	1931	38	8	5134	12 1942	10 0	5124	USGS 1980	DESTROYED
(C-34-16)28BCC2	REBER	1926	67	12	5135	03 1955	14 0	5121	USGS 1980	DESTROYED
(C-34-16)28BCC3	REBER	1950	120	16	5136	03 1979	34 0	5102	USGS 1980	
(C-34-16)28BCC4	REBER	1969	225	16	5136	08 1969	18 0	5118	USGS 1980	
(C-34-16)28CCC2	REBER	1923	78	12	5137	12 1942	11 0	5126	USGS 1980	DESTROYED
(C-34-16)28CCC3	REBER	1961	248	16	5137	06 1961	28 0	5109	USGS 1980	
(C-34-16)28DCC1	REBER	1922	63	12	5137	12 1942	10 0	5127	USGS 1980	DESTROYED
(C-34-16)28DCC2	REBER	1922	148	16	5136					
(C-34-16)28DCC3	REBER	1959	96	6	5136	04 1959	21 0	5115	USGS 1980	
(C-34-16)29AAA	ESSCO	1900		1	5133				USGS 1980	DESTROYED
(C-34-16)29CCC	TAYLOR	1948	203	16	5140	03 1979	38 0	5102	USGS 1980	
(C-34-16)29CDC	TAYLOR	1945			5138	03 1977	38 0	5100	USGS 1980	
(C-34-16)30AAD	SHELLEY	1924		8	5137	05 1937	7 0	5130	USGS 1980	DESTROYED
(C-34-16)30ADB	SHELLEY	1919	100	12	5138	10 1945	9 0	5129	USGS 1980	DESTROYED
(C-34-16)30ADC	SHELLEY	1924	100	12	5139	09 1949	9 0	5130	USGS 1980	DESTROYED
(C-34-16)30BBB	SHELLEY	1965	110	6	5142	11 1965	23 0	5119	USGS 1980	
(C-34-16)30CCC	SHELLEY	1952		10	5146	03 1978	36 0	5110	USGS 1980	
(C-34-16)30DCC1	SHELLEY	1946	280	12	5143	10 1952	14 0	5129	USGS 1980	
(C-34-16)30DDC2	SHELLEY	1919	100	12	5141	12 1949	9 0	5132	USGS 1980	DESTROYED
(C-34-16)30DDC3	SHELLEY	1924	100	12	5141				USGS 1980	DESTROYED
(C-34-16)30DDC4	SHELLEY	1951	242	14	5141	06 1951	16 0	5125	USGS 1980	
(C-34-16)31ABB	THOMAS	1974	174	8	5142	05 1974	38 0	5104	USGS 1980	
(C-34-16)31ACC	THOMAS	1927	120	12	5144	05 1937	11 0	5133	USGS 1980	DESTROYED
(C-34-16)31BAB1	CURLEY	1976	213	8	5144				USGS 1980	DESTROYED
(C-34-16)31BAB2	HENYON	1978	200	8	5143	06 1978	48 0	5095	USGS 1980	
(C-34-16)31BCB	THOMAS	1974	194	8	5147				USGS 1980	
(C-34-16)31BCC2	THOMAS	1920	34	12	5149	12 1953	20 0	5129	USGS 1980	DESTROYED
(C-34-16)31BCC3	THOMAS	1925	144	12	5149	12 1945	15 0	5134	USGS 1980	DESTROYED
(C-34-16)31BCC4	THOMAS	1948	133	12	5150	03 1950	15 0	5135	USGS 1980	DESTROYED
(C-34-16)31BDB	THOMAS	1971	190	8	5146	06 1971	38 0	5108	USGS 1980	
(C-34-16)31CCC	HUNT	1944	160	12	5150	03 1978	45 0	5105	USGS 1980	
(C-34-16)31CCD	HUNT	1966	650	8	5149	04 1977	46 0	5103	USGS 1980	
(C-34-16)31CDC	HUNT	1951	212		5149	04 1955	25 0	5124	USGS 1980	
(C-34-16)31DCC1	WILLIAMS	1946	248	12	5147	03 1977	44 0	5103	USGS 1980	
(C-34-16)31DCC2	WILLIAMS	1900			5147				USGS 1980	DESTROYED
(C-34-16)32ABD1	THOMAS	1974	161	8	5139	03 1974	36 0	5103	USGS 1980	
(C-34-16)32ABD2	SMOOT	1978	200	8	5139	06 1978	47 0	5092	USGS 1980	
(C-34-16)32ADC	THOMAS	1975	200	6	5141				USGS 1980	
(C-34-16)32BBB	THOMAS	1976	234	8	5139	01 1976	40 0	5099	USGS 1980	
(C-34-16)32BCC	THOMAS				5142	03 1977	41 0	5101	USGS 1980	
(C-34-16)32CBB	THOMAS	1960	186	6	5142	07 1960	43 0	5099	USGS 1980	
(C-34-16)32CCC	THOMAS				5144	03 1977	45 0	5099	USGS 1980	
(C-34-16)32CDC	THOMAS	1954	228	16	5144	03 1978	46 0	5098	USGS 1980	
(C-34-16)32DAB	THOMAS	1960	103	16	5141				USGS 1980	
(C-34-16)32DCD	THOMAS	1959	223	16	5143	03 1978	46 0	5097	USGS 1980	
(C-34-16)32DDA	THOMAS	1974	145	8	5142	07 1974	56 0	5086	USGS 1980	
(C-34-16)33CDC	BLM	1900	37	6	5142	03 1970	33 0	5109	USGS 1980	DESTROYED
(C-34-16)33CDD	BLM	1900	79		5141	12 1942	13 0	5128	USGS 1980	DESTROYED
(C-34-16)34BCC	MORSE	1900	57	12	5138	12 1950	13 0	5125	USGS 1980	DESTROYED
(C-34-16)34BDC	UNIVERSAL	1900	82	12	5137	05 1937	9 0	5128	USGS 1980	DESTROYED
(C-34-17) 1AAA	MC GARRY	1918	28	48	5159	05 1937	25 0	5134	USGS 1980	DESTROYED

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(C-34-17) 1AAB	MC GARRY	1919			5159				USGS 1980	DESTROYED
(C-34-17) 1ABA	MC GARRY	1922	100	12	5163	06 1977	33 0	5130	USGS 1980	
(C-34-17) 1DAB	LOLL	1926	98	12	5156	03 1950	21 0	5135	USGS 1980	DESTROYED
(C-34-17) 5CCB1	HOLT	1915	150		5199	08 1976	64 0	5135	USGS 1980	
(C-34-17) 5CCB2	HOLT	1915	150	6	5199				USGS 1980	DESTROYED
(C-34-17) 5CCB3	HOLT	1900	59		5199	05 1937	57 0	5142	USGS 1980	DESTROYED
(C-34-17) 5CCC	HOLT	1932	100	8	5198	03 1978	63 0	5135	USGS 1980	
(C-34-17) 6BCC	HOLT	1918	150	6	5238	03 1978	100 0	5138	USGS 1980	
(C-34-17) 6DCC	HOLT	1918	150	6	5209				USGS 1980	DESTROYED
(C-34-17) 9AAD	STEVENSON	1900			5173				USGS 1980	DESTROYED
(C-34-17) 9CCD	PROUT	1916	30		5175				USGS 1980	DESTROYED
(C-34-17) 9DDD	PROUT	1924	100	8	5167	03 1978	39 0	5128	USGS 1980	
(C-34-17)10BBC1	PROUT	1916	33	48	5172	12 1950	33 0	5139	USGS 1980	DESTROYED
(C-34-17)10BBC2	PROUT	1916	24	12	5172				USGS 1980	DESTROYED
(C-34-17)10DAD	BROWN	1900	24	36	5159	08 1942	23 0	5136	USGS 1980	DESTROYED
(C-34-17)11CBB1	VARDEN	1900			5159				USGS 1980	DESTROYED
(C-34-17)11CBB2	VARDEN	1900			5159				USGS 1980	DESTROYED
(C-34-17)13ACC	WINTEROSE	1900	90	12	5146				USGS 1980	DESTROYED
(C-34-17)13ADD	WINTEROSE	1926	90	24	5144				USGS 1980	DESTROYED
(C-34-17)13CCB	WINTEROSE	1900			5149				USGS 1980	DESTROYED
(C-34-17)13DCD	DEARMAN	1917	100	14	5141				USGS 1980	DESTROYED
(C-34-17)14ADD	MC MORTY	1900		36	5148				USGS 1980	DESTROYED
(C-34-17)14CCC	CHRISTIAN	1900			5158				USGS 1980	DESTROYED
(C-34-17)15CBB	THOMAS	1900		36	5172				USGS 1980	DESTROYED
(C-34-17)15DDD	BARNHOLD	1900			5160				USGS 1980	DESTROYED
(C-34-17)17BCC1	NUTTALL	1900	28	48	5198				USGS 1980	DESTROYED
(C-34-17)17BCC2	NUTTALL	1900			5198				USGS 1980	DESTROYED
(C-34-17)18ADD	DEMATTEO	1900	59		5199	08 1942	56 0	5143	USGS 1980	DESTROYED
(C-34-17)20BCC	BLM	1900	57	48	5197				USGS 1980	DESTROYED
(C-34-17)21AAA	BLM	1900			5172				USGS 1980	DESTROYED
(C-34-17)21CDC	HARDY	1900	40	36	5186				USGS 1980	DESTROYED
(C-34-17)21DAA	SEVY	1900			5175				USGS 1980	DESTROYED
(C-34-17)22CBB	WALTER	1900			5173				USGS 1980	DESTROYED
(C-34-17)23BBB	ROBERTS	1900			5159				USGS 1980	DESTROYED
(C-34-17)23CCD	PARK	1900	40	72	5161				USGS 1980	DESTROYED
(C-34-17)24AAA	THOMAS	1900		6	5141				USGS 1980	DESTROYED
(C-34-17)24AAB	THOMAS	1900			5142				USGS 1980	DESTROYED
(C-34-17)24ACB	THOMAS	1974	196	8	5145	04 1974	34 0	5111	USGS 1980	
(C-34-17)24ACC1	THOMAS	1900			5146	09 1949	21 0	5125	USGS 1980	DESTROYED
(C-34-17)24ACC2	THOMAS	1926	105	12	5146	12 1949	13 0	5133	USGS 1980	DESTROYED
(C-34-17)24ADC	EVERITE	1975	186	6	5142	03 1975	19 0	5123	USGS 1980	
(C-34-17)24ADD	THOMAS	1974	180	8	5140	09 1974	21 0	5119	USGS 1980	
(C-34-17)24BAC	THOMAS	1972	170	8	5147	05 1972	26.0	5121	USGS 1980	
(C-34-17)24BCC2	THOMAS	1927	120		5151	07 1953	40.0	5111	USGS 1980	DESTROYED
(C-34-17)24BCC3	THOMAS	1971		8	5150	09 1971	35.0	5115	USGS 1980	
(C-34-17)24BDA	THOMAS	1974	204	8	5145	11 1974	37.0	5108	USGS 1980	
(C-34-17)24BDD	THOMAS	1972	192	8	5146	04 1972	30.0	5116	USGS 1980	
(C-34-17)24CBB	SCHOW	1934	40		5151	03 1965	24 0	5127	USGS 1980	DESTROYED
(C-34-17)24DAA	SCHOW	1921	40	14	5142				USGS 1980	DESTROYED
(C-34-17)25BCC	MC GARRY	1900			5153				USGS 1980	DESTROYED
(C-34-17)25CCC	MC GARRY	1900		48	5156				USGS 1980	DESTROYED
(C-34-17)26AAA	HEMSTREET	1900	18		5152	05 1937	16.0	5136	USGS 1980	DESTROYED
(C-34-17)26BBB	VALENTINE	1900			5163				USGS 1980	DESTROYED
(C-34-17)26DDD	HEMSTREET	1900			5163				USGS 1980	DESTROYED
(C-34-17)27ABA	THOMAS	1900		42	5168				USGS 1980	DESTROYED
(C-34-17)27CCC	ZUNDEL	1900	29		5182				USGS 1980	DESTROYED
(C-34-17)27CDB1	ZUNDEL	1919			5178				USGS 1980	DESTROYED
(C-34-17)27CDB2	ZUNDEL	1919			5178				USGS 1980	DESTROYED
(C-34-17)27CDB3	ZUNDEL	1919			5178				USGS 1980	DESTROYED
(C-34-17)28ABB1	BLM	1900	54		5183	05 1941	41.0	5142	USGS 1980	DESTROYED
(C-34-17)28ABB2	BLM	1900		48	5184				USGS 1980	DESTROYED
(C-34-17)28CCC	BLM	1900		48	5196				USGS 1980	DESTROYED
(C-34-17)29DAA	SLATE	1916	54	36	5192				USGS 1980	
(C-34-17)31BCC	NUTTALL	1900	37	48	5232				USGS 1980	DESTROYED
(C-34-17)31CBB	WOOD	1900		39	5233				USGS 1980	DESTROYED
(C-34-17)31DDD	WOOD	1940	120	4	5221	09 1949	77 0	5144	USGS 1980	
(C-34-17)33AAA	HUBBARD	1900			5183				USGS 1980	DESTROYED
(C-34-17)33DCC	CANNON	1946			5193	03 1978	77 0	5116	USGS 1980	
(C-34-17)35ADC	BLM	1900			5159				USGS 1980	DESTROYED
(C-34-17)35ADD	BLM	1900			5158				USGS 1980	DESTROYED
(C-34-17)36AAD	THOMAS	1970	190	8	5148	03 1970	34 0	5114	USGS 1980	
(C-34-17)36ACC	RALL	1948	190	14	5149	03 1979	43 0	5106	USGS 1980	
(C-34-17)36ADD	REESE	1973	200	8	5149	07 1973	64 0	5085	USGS 1980	
(C-34-17)36BDC	SAYLIN	1948	200	14	5154	03 1978	42 0	5112	USGS 1980	
(C-34-17)36CCC	BETTER	1950	220	14	5160	03 1978	51 0	5109	USGS 1980	
(C-34-17)36DCC	HOLT	1948	232	14	5155	04 1977	57 0	5098	USGS 1980	
(C-34-17)36DDC1	BIASI	1947	150		5152	08 1951	55 0	5097	USGS 1980	
(C-34-17)36DDC2	BIASI	1965	275	14	5152	09 1965	37 0	5115	USGS 1980	
(C-34-17)36DDD	BIASI	1951	108	6	5151				USGS 1980	
(C-34-18) 2ACC	LEIGH	1974	230	8	5322	03 1978	180 0	5142	USGS 1980	
(C-34-18)11ACC	BIASI	1977	240		5275	10 1977	147 0	5128	USGS 1980	
(C-34-18)12AAA	BIASI	1918		14	5227				USGS 1980	DESTROYED
(C-34-18)16ADA	BIASI	1915	179	6	5310	08 1967	164 0	5146	USGS 1980	DESTROYED
(C-34-18)21BCC	LEIGH	1972	234	8	5335	10 1972	198 0	5137	USGS 1980	

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(C-34-18)23DBC	BLM	1915	150		5263	07 1949	116.0	5147	USGS 1980	DESTROYED
(C-34-18)24CBA1	THORLEY	1918	91	8	5227	10 1941	83.0	5144	USGS 1980	
(C-34-18)24CBA2	BLM	1947	130	60	5227	03 1979	98.0	5129	USGS 1980	
(C-34-18)27ADC	PARK, FEHR	1970	185	6	5285	06 1970	147.0	5138	USGS 1980	
(C-34-18)27DCD	PARK	1968	215	8	5304	10 1968	163.0	5141	USGS 1980	
(C-34-18)28BAB	THORLEY	1973	220	48	5336	10 1973	188.0	5148	USGS 1980	
(C-34-18)29DAD	MALER	1972	262	8	5361	04 1972	224.0	5137	USGS 1980	
(C-34-18)32CCB	PARK	1971	290	8	5312	06 1971	255.0	5057	USGS 1980	
(C-34-18)32CCC	FAIRCLAUGH	1966	311	6	5392	05 1966	254.0	5138	USGS 1980	
(C-34-18)33ADA	SILVEST	1967	240	6	5328	06 1967	188.0	5140	USGS 1980	
(C-34-18)34BCB	BROOM	1968	246	8	5322	11 1968	185.0	5137	USGS 1980	
(C-34-18)34CAA	PARK	1970	240	8	5313	09 1970	177.0	5136	USGS 1980	
(C-34-18)34CCC	THORLEY	1959	207	6	5331	03 1967	183.0	5148	USGS 1980	
(C-34-19)14BDA			40		5782	09 1978	30.0	5752	USGS 1980	
(C-34-19)36CDA	UNION PACIFIC	1941	300	16	5465	10 1941	260.0	5205	USGS 1980	
(C-34-19)36CDC	UNION PACIFIC	1943	390	16	5460				USGS 1980	DESTROYED
(C-34-19)36DBD	UNION PACIFIC	1943	410	16	5463	11 1943	211.0	5252	USGS 1980	DESTROYED
(C-35-13) 4[illegible]AA	HUNTER	1940	250	8	5326	03 1979	186.0	5140	USGS 1980	
(C-35-13)21DDD	STUCKI	1947	390	6	5528	05 1947	340.0	5188	USGS 1980	
(C-35-15) 2CDB1	MOYLE	1971	321	16	5138	05 1978	39.0	5099	USGS 1980	
(C-35-15) 2CDB2	MOYLE	1975	512	16	5138	05 1978	76.0	5062	USGS 1980	
(C-35-15) 3[illegible]CC	MOYLE	1926	45	12	5135	03 1950	12.0	5123	USGS 1980	DESTROYED
(C-35-15) 3CCC	LOLL	1900	100	12	5137	09 1950	13.0	5124	USGS 1980	DESTROYED
(C-35-15) 3DCC1	MOYLE	1933	130	12	5139	03 1978	34.0	5105	USGS 1980	
(C-35-15) 3DCC2	MOYLE	1927	350	16	5138	03 1978	34.0	5104	USGS 1980	
(C-35-15) 3DCC3	MOYLE	1965	316	16	5138	03 1978	35.0	5103	USGS 1980	
(C-35-15) 3DDC	LOLL	1927	350	16	5138	03 1978	35.0	5103	USGS 1980	
(C-35-15) 4DCC	COWIN	1900	97	12	5137	12 1953	14.0	5123	USGS 1980	DESTROYED
(C-35-15) 5CDB	PENN	1918	35		5135				USGS 1980	DESTROYED
(C-35-15) 6CDD	COWIN	1931	170	12	5139	10 1979	41.0	5098	USGS 1980	
(C-35-15) 7CDD	MOYLE	1946	330	16	5146	04 1978	46.0	5100	USGS 1980	
(C-35-15)10ACC	MOYLE	1927	334	16	5143	05 1978	41.0	5102	USGS 1980	
(C-35-15)10ACD	MOYLE	1927	276	16	5142	05 1978	41.0	5101	USGS 1980	
(C-35-15)10ADC	MOYLE	1927	376	16	5144	05 1978	40.0	5104	USGS 1980	
(C-35-15)10ADD	MOYLE	1927	350	16	5143	05 1978	41.0	5102	USGS 1980	
(C-35-15)10BAC1	JONES	1936	60	12	5141	12 1942	17.0	5124	USGS 1980	DESTROYED
(C-35-15)10BAC2	JONES	1934	60		5141				USGS 1980	DESTROYED
(C-35-15)10BAC3	JONES	1963	317	6	5141	04 1963	23.0	5118	USGS 1980	
(C-35-15)10BDC2	JONES	1936	305	16	5142	10 1962	29.0	5113	USGS 1980	DESTROYED
(C-35-15)10BDC3	JONES				5142	05 1978	39.0	5103	USGS 1980	
(C-35-15)10CDC	BAR V RANCH	1959		20	5145	05 1978	44.0	5101	USGS 1980	
(C-35-15)11BBB	MOYLE	1900	18	8	5139	12 1950	15.0	5124	USGS 1980	DESTROYED
(C-35-15)11BCC	MOYLE	1949	585	8	5144	05 1978	40.0	5104	USGS 1980	
(C-35-15)16BBB	WALTON	1949	18		5144	09 1949	17.0	5127	USGS 1980	DESTROYED
(C-35-15)16DDD	HULET	1947	315	16	5156	03 1979	54.0	5102	USGS 1980	
(C-35-15)20BCD	BLM		162		5159				USGS 1980	
(C-35-15)22DCD	GARDNER	1947	257	16	5168	03 1979	58.0	5110	USGS 1980	
(C-35-15)23CCC1	GARDNER	1929	72	6	5167	12 1953	33.0	5134	USGS 1980	
(C-35-15)23CCC2	GARDNER	1977	200	6	5167				USGS 1980	
(C-35-15)28ACC1	HULET	1912	35	60	5167				USGS 1980	DESTROYED
(C-35-15)28ACC2	HULET	1942	196	10	5175	11 1952	19.0	5156	USGS 1980	DESTROYED
(C-35-15)28ACC3	HULET	1954	206	16	5175	05 1954	43.0	5132	USGS 1980	
(C-35-15)28ADC	HULET	1945	298	10	5175	10 1956	47.0	5128	USGS 1980	
(C-35-15)28BAB	HULET	1900			5170				USGS 1980	DESTROYED
(C-35-15)28BDC1	HULET	1943	180	14	5174	04 1959	47.0	5127	USGS 1980	DESTROYED
(C-35-15)28BDC2	HULET	1955	264	16	5174	12 1960	50.0	5124	USGS 1980	
(C-35-15)28BDC3	HULET	1960	302	16	5174	03 1979	74.0	5100	USGS 1980	
(C-35-15)28DBB	HULET	1955	102	6	5175	04 1955	48.0	5127	USGS 1980	
(C-35-15)28DDC1	HULET	1937			5183				USGS 1980	DESTROYED
(C-35-15)28DDC2	HULET	1961	320	16	5183	03 1978	84.0	5099	USGS 1980	
(C-35-15)30ACC	CHRISTIANSEN	1912	35	48	5164	03 1978	98.0	5066	USGS 1980	DESTROYED
(C-35-15)34CCB	MOYLE	1977	500	16	5205	04 1978	103.0	5102	USGS 1980	
(C-35-15)34DCD	GARDNER	1956	135	7	5202	06 1978	100.0	5102	USGS 1980	
(C-35-16) 3ABB	GARDNER	1966	200	8	5142	08 1966	48.0	5094	USGS 1980	
(C-35-16) 3BBD	DEWEY	1926	90	12	5141	07 1937	14.0	5127	USGS 1980	DESTROYED
(C-35-16) 3BCD	DEWEY	1926	135	12	5146	12 1953	21.0	5125	USGS 1980	DESTROYED
(C-35-16) 3BDD	EDCOR	1950	202	16	5144	03 1950	15.0	5129	USGS 1980	
(C-35-16) 3CCA	DEWEY	1926	93		5149				USGS 1980	DESTROYED
(C-35-16) 3CDC	LAUB	1952	200	16	5147	01 1952	20.0	5127	USGS 1980	
(C-35-16) 3DCC	BOWLER	1948	85	4	5147	12 1949	18.0	5129	USGS 1980	DESTROYED
(C-35-16) 3DCD	BOWLER	1952	206	16	5147	03 1979	55.0	5092	USGS 1980	
(C-35-16) 4BCC	JENSEN	1974	204	8	5143	11 1974	47.0	5096	USGS 1980	
(C-35-16) 4CCC1	LAUB	1949			5146				USGS 1980	DESTROYED
(C-35-16) 4CCC2	LAUB	1976	200	8	5146	10 1976	65.0	5081	USGS 1980	
(C-35-16) 4DCB	LAUB	1970	250	16	5146	03 1970	37.0	5109	USGS 1980	
(C-35-16) 4DCC	LAUB	1953	166	16	5148	06 1953	21.0	5127	USGS 1980	
(C-35-16) 5ADD	PUDDYCOMB	1923	35	8	5144	10 1941	12.0	5132	USGS 1980	DESTROYED
(C-35-16) 5ADD1	PUDDYCOMB	1938	40	15	5144	07 1949	15.0	5129	USGS 1980	DESTROYED
(C-35-16) 5ADD2	PUDDYCOMB	1951	89	6	5144	11 1951	21.0	5123	USGS 1980	
(C-35-16) 5ADD3	HITT	1967	1629	10	5144	11 1967	37.0	5107	USGS 1980	
(C-35-16) 6BBC1	STAHELI	1927	22	8	5151	09 1947	20.0	5131	USGS 1980	DESTROYED
(C-35-16) 6BBC2	STAHELI	1949	200	16	5151	03 1979	50.0	5101	USGS 1980	
(C-35-16) 6CCC1	THOMAS	1923	80	12	5155	05 1937	18.0	5137	USGS 1980	DESTROYED
(C-35-16) 6CCC2	THOMAS	1925	60	8	5155	03 1954	29.0	5126	USGS 1980	DESTROYED

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo yr)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-35-16) 6DBC1	THOMAS	1955	208	16	5151	10 1955	27.0	5124	USGS 1980	
(C-35-16) 7BBB1	THOMAS	1932	65		5155	09 1949	24.0	5131	USGS 1980	DESTROYED
(C-35-16) 7BBB2	ABRAMS	1932		8	5156				USGS 1980	DESTROYED
(C-35-16) 7BCC	ABRAMS	1925	65	12	5156	03 1950	22.0	5134	USGS 1980	DESTROYED
(C-35-16) 7BDB1	MOYLE	1923	75	12	5154	01 1939	18.0	5136	USGS 1980	DESTROYED
(C-35-16) 7BDB2	MOYLE	1930	35		5154	05 1937	17.0	5137	USGS 1980	DESTROYED
(C-35-16) 7BDC1	MOYLE	1922	75	12	5155	05 1937	18.0	5137	USGS 1980	DESTROYED
(C-35-16) 7CCB1	WILSON	1900	29		5158	08 1942	22.0	5136	USGS 1980	DESTROYED
(C-35-16) 7CCB2	WILSON	1925	[illegible]	12	5158				USGS 1980	DESTROYED
(C-35-16) 7CCC1	WILSON	1934	70	12	5157	05 1937	19.0	5138	USGS 1980	
(C-35-16) 7CCC2	WILSON	1955	234	16	5157	03 1977	60.0	5097	USGS 1980	
(C-35-16) 7CCC3	WILSON	1966	180	8	5158	06 1966	44.0	5114	USGS 1980	
(C-35-16) 7CDC1	MOYLE	1944	145	14	5157	11 1944	21.0	5136	USGS 1980	
(C-35-16) 8ADA1	WEHNER	1969	186	8	5149	07 1969	52.0	5097	USGS 1980	
(C-35-16) 8ADD1	LAYMON	1948			5150				USGS 1980	
(C-35-16) 8CDD1	LIOSI	1919	60	12	5150				USGS 1980	DESTROYED
(C-35-16) 8DAA	AULD	1959	108	6	5149	03 1978	55.0	5094	USGS 1980	
(C-35-16) 8DDC1	MANNING	1958	107	7	5152	04 1958	29.0	5123	USGS 1980	
(C-35-16) 9AAD1	BOWLER	1946	150	16	5150				USGS 1980	
(C-35-16) 9AAD2	BOWLER	1950	214	14	5150	10 1950	9.0	5141	USGS 1980	
(C-35-16) 9ADD	BOWLER	1946	150	16	5151	10 1969	50.0	5101	USGS 1980	
(C-35-16) 9CBC1	LAUB	1966	169	8	5150	05 1966	52.0	5098	USGS 1980	
(C-35-16) 9CBD1	LAUB	1951	330	16	5150	02 1975	47.0	5103	USGS 1980	
(C-35-16) 9CDC	HASEGAWA	1900	51	12	5152	12 1941	16.0	5136	USGS 1980	DESTROYED
(C-35-16) 9DAC1	WOODS				5152				USGS 1980	
(C-35-16)10ACB1	ANDERSON	1926	103	12	5151	12 1951	23.0	5128	USGS 1980	
(C-35-16)10ACB2	ANDERSON	1929	25	2	5151				USGS 1980	DESTROYED
(C-35-16)10ACB3	ANDERSON	1936	21	20	5147	05 1937	14.0	5133	USGS 1980	DESTROYED
(C-35-16)10ACB4	ANDERSON	1963	137	7	5151	03 1963	41.0	5110	USGS 1980	
(C-35-16)10BDA1	ANDERSON	1927	117	14	5150	03 1943	17.0	5133	USGS 1980	
(C-35-16)10BDA2	ANDERSON				5150				USGS 1980	
(C-35-16)10BDD1	ANDERSON	1963	250	16	5151	08 1963	42.0	5109	USGS 1980	
(C-35-16)14ADC1	MC GARRY	1966	287	14	5150	08 1966	45.0	5105	USGS 1980	
(C-35-16)14BDD1	MC GARRY	1926			5152				USGS 1980	DESTROYED
(C-35-16)14BDD2	MC GARRY	1960	241	14	5152	10 1960	36.0	5116	USGS 1980	
(C-35-16)14CAD1	MC GARRY	1900			5152				USGS 1980	
(C-35-16)14CCC1	MC GARRY	1950	192	14	5156	10 1963	47.0	5109	USGS 1980	
(C-35-16)14CCC2	MC GARRY	1948	100	6	5156	09 1949	23.0	5133	USGS 1980	DESTROYED
(C-35-16)14DCC1	MC GARRY	1948	167	14	5155	10 1963	44.0	5111	USGS 1980	
(C-35-16)14DDC1	MC GARRY	1947	100	12	5155	10 1979	67.0	5088	USGS 1980	
(C-35-16)14DDC2	MC GARRY	1953	130	6	5155	02 1953	25.0	5130	USGS 1980	
(C-35-16)14DDC3	MC GARRY	1900			5155				USGS 1980	
(C-35-16)15ABB1	BURGESS	1900	40		5151	07 1956	32.0	5119	USGS 1980	DESTROYED
(C-35-16)15ABC1	BURGESS	1932	90		5152	10 1945	19.0	5133	USGS 1980	DESTROYED
(C-35-16)15ACA1	BURGESS	1931	84	12	5154	07 1949	21.0	5133	USGS 1980	DESTROYED
(C-35-16)15BBA1	BURGESS	1927	133	12	5153	08 1927	37.0	5116	USGS 1980	DESTROYED
(C-35-16)15BBA2	BURGESS	1961	227	16	5153	06 1961	41.0	5112	USGS 1980	
(C-35-16)15BBD1	BRACKEN	1927	34	12	5153	05 1937	18.0	513[illegible]	USGS 1980	DESTROYED
(C-35-16)15BCC1	BRACKEN	1961	116	6	5156	04 1961	40.0	5116	USGS 1980	
(C-35-16)15CBD1	BURGESS	1962	216	16	5156	08 1962	51.0	5105	USGS 1980	
(C-35-16)15DCC1	HARTLEY	1900			5156				USGS 1980	DESTROYED
(C-35-16)16ACA1	NIELSON	1963	240	14	5154	04 1963	41.0	5113	USGS 1980	
(C-35-16)16ADA1	BRACKEN	1978	253	16	5154	06 1978	63.0	5091	USGS 1980	
(C-35-16)16ADD	BRACKEN		215	14	5157	08 1949	24.0	5133	USGS 1980	
(C-35-16)16BBC	ROMERO	1946	174	14	5151	03 1979	63.0	5088	USGS 1980	
(C-35-16)16BCB1	ROMERO	1954	96	7	5152	07 1954	28.0	5124	USGS 1980	
(C-35-16)16BDD	ROMERO	1946	163	14	5154	08 1949	23.0	5131	USGS 1980	
(C-35-16)16CAC1	BRACKEN	1946	140	12	5155	07 1953	45.0	5110	USGS 1980	DESTROYED
(C-35-16)16CAC2	BRACKEN	1961	201	14	5155				USGS 1980	
(C-35-16)16CDD1	BANKS	1941	125		5156	03 1978	66.0	5090	USGS 1980	DESTROYED
(C-35-16)16CDD2	BANKS	1961	204	16	5156	08 1961	50.0	5106	USGS 1980	
(C-35-16)16DCD1	NIELSON	1966	130	6	5157	08 1966	62.0	5095	USGS 1980	
(C-35-16)16DDA1	WOODS	1949	224	14	5157	07 1953	49.0	5108	USGS 1980	
(C-35-16)16DDA2	WOODS	1960	118	7	5151	08 1960	50.0	5101	USGS 1980	
(C-35-16)16DDC1	NIELSON	1947	152	14	5157	07 1953	45.0	5112	USGS 1980	DESTROYED
(C-35-16)16DDC2	NIELSON	1954	199	14	5157	12 1955	32.0	5125	USGS 1980	
(C-35-16)17ABA1	HUNT	1944			5151	08 1949	18.0	5133	USGS 1980	DESTROYED
(C-35-16)17ABA2	HUNT	1953	96	6	5151				USGS 1980	
(C-35-16)17ACC1	HUNT	1940	70		5155	08 1950	31.0	5124	USGS 1980	DESTROYED
(C-35-16)17ACC2	HUNT	1961	203	14	5155	03 1961	35.0	5120	USGS 1980	
(C-35-16)17ADD1	BECKSTROM	1940	25		5154				USGS 1980	DESTROYED
(C-35-16)17ADD2	BECKSTROM	1940	103	13	5154	07 1952	38.0	5116	USGS 1980	
(C-35-16)17ADD3	BECKSTROM	1952	57	6	5154	07 1952	30.0	5124	USGS 1980	DESTROYED
(C-35-16)17ADD4	BECKSTROM	1961	150	14	5154	04 1961	38.0	5116	USGS 1980	
(C-35-16)17BAD1	LILLEY	1931	120	12	5151	12 1953	25.0	5126	USGS 1980	
(C-35-16)17BAD2	LILLEY	1932	19	11	5155	05 1937	16.0	5139	USGS 1980	DESTROYED
(C-35-16)17BBA1	IRON COUNTY	1940	50		5152	10 1945	15.0	5137	USGS 1980	DESTROYED
(C-35-16)17BDA1	LILLEY	1932	25	13	5155	05 1937	15.0	5140	USGS 1980	DESTROYED
(C-35-16)17CDA1	LILLEY	1934	122	3	5153	05 1937	14.0	5139	USGS 1980	DESTROYED
(C-35-16)17CDA2	LILLEY	1924	75		5153	06 1937	12.0	5141	USGS 1980	DESTROYED
(C-35-16)17CDA3	LILLEY	1950	124	14	5153	11 1950	20.0	5133	USGS 1980	
(C-35-16)17CDC1	LILLEY	1974	300	16	5155				USGS 1980	
(C-35-16)17CDD1	LILLEY	1900	16		5155	05 1937	14.0	5141	USGS 1980	DESTROYED
(C-35-16)17DCD1	LILLEY	1900			5153				USGS 1980	
(C-35-16)17DDC1	CLARK	1937	27	6	5153	10 1941	19.0	5134	USGS 1980	DESTROYED

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(C-35-16)17CDD1	CLARK	1918	75		5156	12 1949	22 0	5134	USGS 1980	DESTROYED
(C-35-16)18CCC1	BOSSHARDT	1946	160		5159	12 1953	32 0	5127	USGS 1980	
(C-35-16)18CDC1	BOSSHARDT	1934	90	12	5160				USGS 1980	DESTROYED
(C-35-16)18CDC2	BOSSHARDT	1934	35	9	5160	03 1961	42 0	5118	USGS 1980	DESTROYED
(C-35-16)18CDC3	BOSSHARDT	1934	28	6	5160				USGS 1980	DESTROYED
(C-35-16)18CDC4	BOSSHARDT	1934	22	6	5160	05 1937	19 0	5141	USGS 1980	DESTROYED
(C-35-16)18CDC5	BOSSHARDT	1961	148	6	5160	05 1961	50 0	5110	USGS 1980	
(C-35-16)18CDC6	BOSSHARDT	1961	204	16	5160	07 1961	43 0	5117	USGS 1980	
(C-35-16)18CDC7	BOSSHARDT	1973	265	8	5160	09 1973	76 0	5084	USGS 1980	
(C-35-16)12DBD1	WHALEY	1900			5155				USGS 1980	DESTROYED
(C-35-16)20AAA1	LILLEY	1953	98	6	5157	10 1953	38 0	5119	USGS 1980	DESTROYED
(C-35-16)20AAA1	LILLEY	1953	98	6	5157		8300 0		USGS 1980	DESTROYED
(C-35-16)20AAA2	LILLEY	1974	234	8	5157	07 1974	82 0	5075	USGS 1980	
(C-35-16)20BAA1	BLM	1976	57	2	5150				USGS 1980	
(C-35-16)20CDD1	GUEST	1929	45	12	5159	05 1937	20 0	5139	USGS 1980	DESTROYED
(C-35-16)20CDD2	GUEST	1900	25	12	5160	06 1947	22 0	5138	USGS 1980	DESTROYED
(C-35-16)20CDD3	GUEST	1959	117	9	5159	05 1961	47 0	5112	USGS 1980	
(C-35-16)20DAD1	LILLEY	1946	200	16	5159	10 1963	53 0	5106	USGS 1980	
(C-35-16)20DCC1	GUEST		98	12	5162	05 1937	20 0	5142	USGS 1980	DESTROYED
(C-35-16)20DCC2	GUEST	1957	149	5	5162	08 1957	45 0	5117	USGS 1980	
(C-35-16)20DDD1	HUNTER	1929	80	12	5161				USGS 1980	DESTROYED
(C-35-16)21AAA1	LOVE	1952	63	7	5157	06 1952	29 0	5128	USGS 1980	
(C-35-16)21ACD1	LOVE	1946	97	12	5161	04 1978	69 0	5092	USGS 1980	
(C-35-16)21ACD2	LOVE	1961	239	16	5161	07 1961	50 0	5111	USGS 1980	
(C-35-16)21BBB1	BIASI	1942			5158				USGS 1980	DESTROYED
(C-35-16)21BBB2	BIASI	1954	55	8	5158	04 1954	30 0	5128	USGS 1980	DESTROYED
(C-35-16)21BBB3	BIASI	1956	121		5158	10 1956	38 0	5120	USGS 1980	
(C-35-16)21BCC1	MOYLE	1944	120	13	5159	05 1944	22 0	5137	USGS 1980	
(C-35-16)21BCC2	MOYLE	1973	270	16	5159	07 1973	73 0	5086	USGS 1980	
(C-35-16)21BDC1	MOYLE	1947	200	16	5161	10 1954	34 0	5127	USGS 1980	
(C-35-16)21CAC1	PIPER	1947	155	14	5162	11 1951	44 0	5118	USGS 1980	
(C-35-16)21CAC2	PIPER	1977	300	16	5162	06 1977	67 0	5095	USGS 1980	
(C-35-16)21CBB1	PIPER	1948	97	6	5160	08 1949	29 0	5131	USGS 1980	DESTROYED
(C-35-16)21CBB2	PIPER	1972	214	8	5160	08 1972	84 0	5076	USGS 1980	
(C-35-16)21CCC1	MOYLE	1941	110		5163				USGS 1980	DESTROYED
(C-35-16)21CCC2	MOYLE	1950	204	16	5163	02 1950	25 0	5138	USGS 1980	DESTROYED
(C-35-16)21CCC3	MOYLE	1973	300	16	5163	06 1973	78 0	5085	USGS 1980	
(C-35-16)21DDC1	LOVE	1951	156	14	5163	08 1951	32 0	5131	USGS 1980	DESTROYED
(C-35-16)22ADD1	THOMPSON	1931	147	12	5160	06 1952	37 0	5123	USGS 1980	DESTROYED
(C-35-16)22ADD2	THOMPSON				5160				USGS 1980	
(C-35-16)22BBA1	LOVE	1934	26	8	5159	06 1950	26 0	5133	USGS 1980	DESTROYED
(C-35-16)22BCB1	LOVE	1966	251	16	5160	07 1966	62 0	5098	USGS 1980	
(C-35-16)22CCD1	BOWLER	1923	85	12	5164	04 1940	23 0	5141	USGS 1980	DESTROYED
(C-35-16)22CCD2	BOWLER	1947	206	14	5164	09 1961	53 0	5111	USGS 1980	
(C-35-16)22DCC1	BOWLER	1947	130	12	5164	09 1949	28 0	5136	USGS 1980	DESTROYED
(C-35-16)22DCC2	BOWLER	1957	226	16	5164	07 1957	43 0	5121	USGS 1980	
(C-35-16)22DDD1	BOWLER	1900			5163				USGS 1980	DESTROYED
(C-35-16)23BCD1	GRAFF	1944	160	12	5159				USGS 1980	
(C-35-16)23BCD2	GRAFF	1948	62	6	5159	07 1962	54 0	5105	USGS 1980	
(C-35-16)24BCB1	PACIFIC WEST	1900	20		5155	05 1937	17.0	5138	USGS 1980	DESTROYED
(C-35-16)27CCA1	PEDERSON	1977	700	16	516[illegible]				USGS 1980	
(C-35-16)28ACB1	THOMAS	1961	205	16	5168	04 1978	75 0	5093	USGS 1980	
(C-35-16)28BCD1	THOMAS	1952	89	6	5167				USGS 1980	
(C-35-16)28BDC1	THOMAS	1946	200	18	5167	04 1978	76 0	5091	USGS 1980	
(C-35-16)28BDC2	THOMAS				5167	04 1978	76 0	5091	USGS 1980	
(C-35-16)28CBC1	PEDERSON	1974	510	16	5168	03 1974	70 0	5098	USGS 1980	
(C-35-16)28CCD2	PEDERSON	1951	60	8	5170	05 1951	36 0	5134	USGS 1980	DESTROYED
(C-35-16)28CCD3	PEDERSON	1962	149	7	5170	06 1962	62 0	5108	USGS 1980	
(C-35-16)28CDC1	PEDERSON	1947	183	16	5170	02 1947	29 0	5141	USGS 1980	
(C-35-16)28DAC1	PEDERSON	1969	530	16	5169				USGS 1980	
(C-35-16)29ACC1	SMITH	1944	195	16	5167	07 1951	35 0	5132	USGS 1980	
(C-35-16)29ACD1	SMITH	1962	227	16	5166	12 1962	55 0	5111	USGS 1980	
(C-35-16)29ADD1	SMITH	1946	129	6	5166	07 1967	70 0	5096	USGS 1980	
(C-35-16)29BAD1	BAYLES	1928	90	12	5163				USGS 1980	DESTROYED
(C-35-16)29CCD1	BAYLES	1949	190	16	5174	03 1961	55 0	5119	USGS 1980	
(C-35-16)29CCD2	BAYLES	1977	700	16	5174	12 1977	73 0	5101	USGS 1980	
(C-35-16)29DCC1	HARKER	1941	140		5172				USGS 1980	DESTROYED
(C-35-16)29DCC2	HARKER	1975	520	16	5172	02 1975	70 0	5102	USGS 1980	
(C-35-16)29DDC1	HARKER	1941			5172				USGS 1980	
(C-35-16)29DDC2	HARKER	1955	105	6	5172	02 1955	39 0	5133	USGS 1980	
(C-35-16)29DDD1	HARKER	1900	25		5171				USGS 1980	DESTROYED
(C-35-16)29DDD2	HARKER	1967	170	6	5171	07 1967	73 0	5098	USGS 1980	
(C-35-16)29DDD3	HARKER	1976	380	9	5171	05 1976	85 0	5086	USGS 1980	
(C-35-16)30DCC1	THOMAS	1947	155	14	5175	05 1978	83 0	5092	USGS 1980	
(C-35-16)31ABC1	THOMAS	1947	162	16	5178	03 1979	87 0	5091	USGS 1980	
(C-35-16)31ABC2	THOMAS	1948	70	6	5178				USGS 1980	
(C-35-16)31ACC1	THOMAS				5179	04 1978	88 0	5091	USGS 1980	
(C-35-16)31ACC2	LIPOMA CO		162		5173				USGS 1980	
(C-35-16)31BAB1	MALNER	1948	103	6	5177	08 1960	65 0	5112	USGS 1980	
(C-35-16)31BAB2	MALNER	1978	200	8	5177	02 1978	70 0	5107	USGS 1980	
(C-35-16)31BCC	WHITELAW	1947	195	16	5181	08 1969	81 0	5100	USGS 1980	
(C-35-16)31BDC1	MALNER	1946	160	12	5179				USGS 1980	
(C-35-16)31CCC1	GARDNER	1946	209	6	5186	05 1961	68 0	5118	USGS 1980	
(C-35-16)31CCC2	GARDNER	1948	65	6	5186	04 1948	42 0	5144	USGS 1980	

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo yr)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
-35-16 31[illegible]C3	GARDNER	1965	282	14	5186	04 1965	79 0	5107	USGS 1980	
-35-16 31[illegible]DD1	GARDNER	1946	182	14	5183	06 1953	74 0	5109	USGS 1980	
-35-16 31[illegible]DD1	STAHELI	1948	140	14	5184	03 1948	38 0	5146	USGS 1980	
(C-35-16)31CDD1	STAHELI	1946	160	16	5184	06 1953	63 0	5121	USGS 1980	
(C-35-16)32ACC1	PEDERSON	1946	168	16	5177	06 1953	56 0	5121	USGS 1980	
(C-35-16)32ADD1	PEDERSON	1947	116	6	5176	08 1947	36 0	5140	USGS 1980	DESTROYED
-35-16 32ADD2	PEDERSON	1970	220	8	5176	04 1970	74 0	5102	USGS 1980	
-35-16 32CD1	PEDERSON	1946	173	16	5178	06 1946	35 0	5143	USGS 1980	
C-35-16)32CD2	PEDERSON	1948	100	6	5178	01 1948	35 0	5143	USGS 1980	
(C-35-16)32CCD3	PEDERSON	1967	336	16	5178	04 1967	73 0	5105	USGS 1980	DESTROYED
-35-16 32CD4	PEDERSON	1974	494	16	5178	04 1974	74 0	5104	USGS 1980	
(C-35-16)32DC1	PEDERSON	1949	122		5178	06 1949	40 0	5138	USGS 1980	DESTROYED
-35-16)32DC2	PEDERSON	1977	200	9	5178	01 1977	104 0	5074	USGS 1980	
C-35-16)32CC1	FARNSWORTH	1946	197	16	5182	03 1961	63 0	5119	USGS 1980	
-35-16)32DD1	FARNSWORTH	1950	170	14	5182	06 1950	44 C	5138	USGS 1960	
-35-16)32DAA1	IRON CO. SCH	1950	256	8	5177	07 1974	93 0	5084	USGS 1980	
C-35-16 32DAA2	LAKEY	1958	144	7	5177	10 1958	56 0	5121	USGS 1980	
-35-16 32DAB1	IRON CO SCH	1952	99	6	5176	06 1952	44 0	5132	USGS 1980	DESTROYED
-35-16 32DAB2	IRON CO SCH	1965	172	7	5176	05 1965	70 0	5106	USGS 1980	
C-35-16)32DCA1	BL BAPT CHURCH	1978	186	8	5180	06 1978	97 0	5083	USGS 1980	
-35-16)32DCD1	FARNSWORTH	1961	140	6	5180	05 1961	67 0	5113	USGS 1980	
C-35-16)32DDC1	MC GARRY	1948	452	16	5178	03 1961	59 0	5119	USGS 1980	
C-35-16)32DDC2	MC GARRY	1962	146	6	5178	06 1962	83 0	5095	USGS 1980	
-35-16)33BCC1	TWITCHELL	1946	160	16	5175	10 1979	94 0	5081	USGS 1980	
C-35-16)33BDC1	TWITCHELL	1957	124	6	5175	03 1978	87 0	5088	USGS 1980	
C-35-16)33BDC2	TWITCHELL	1962	191	16	5175	03 1979	87 0	5088	USGS 1980	
C-35-16)33CCB1	MOYLE	1945	149	10	5180	06 1978	90 0	5090	USGS 1980	
C-35-16)33CCB2	MOYLE	1949	75	6	5180				USGS 1980	
-35-16)33CCB3	E V EL ASSOC	1955	132	6	5180	06 1965	75 0	5105	USGS 1980	
C-35-16)33CCB4	MOYLE	1977	352	12	5180	06 1978	89 0	5091	USGS 1980	
C-35-16)33CCC1	BRACKEN	1963	147	6	5181	05 1963	69 0	5112	USGS 1980	
(C-35-16)33CCC2	BRACKEN	1973	180	8	5181	07 1973	90 0	5091	USGS 1980	
C-35-16)33CCC3	HOLT	1976	115	2	5181				USGS 1980	
(C-35-16)33CCD1	BUHL	1954	101	8	5180	11 1954	45 0	5135	USGS 1980	DESTROYED
C-35-16)33CCD2	LAUB	1958	110	6	5181	07 1958	62 0	5119	USGS 1980	
C-35-16)33CCD3	BUHL	1966	131	6	5180	08 1966	81 0	5099	USGS 1980	
C-35-16)33CDC1	E V H A	1972	230	8	5180	01 1972	80 0	5100	USGS 1980	
C-35-16)33CCB	THOMAS	1970	177	8	5300	09 1970	95 0	5205	USGS 1980	
C-35-17) 1ABB2	THOMAS	1900			5154	05 1937	18 0	5136	USGS 1980	DESTROYED
C-35-17) 1ABB3	THOMAS	1900			5154	05 1937	18 0	5136	USGS 1980	DESTROYED
C-35-17) 1ABBA	THOMAS	1900			5155	05 1937	18 0	5137	USGS 1980	DESTROYED
C-35-17) 1ACC1	THOMAS	1926	100	12	5157	12 1953	28 0	5129	USGS 1980	DESTROYED
(C-35-17) 1ACC2	THOMAS	1947	265	16	5156	04 1977	65 0	5091	USGS 1980	
(C-35-17) 1ADBA	DOBBS	1970	210	8	5153	02 1970	46 0	5107	USGS 1980	
(C-35-17) 1BCC1	THOMAS	1926	122	12	5162	05 1937	24 0	5138	USGS 1980	
(C-35-17) 1BCC2	THOMAS	1951	122	12	5162	12 1954	34 0	5128	USGS 1980	
(C-35-17) 1BDD1	MC GARRY	1924	100		5156				USGS 1980	DESTROYED
(C-35-17) 1CCC1	BROWN	1951	206	16	5166	04 1977	61 0	5105	USGS 1980	
(C-35-17) 1CDC1	BROWN	1947	102	12	5169	07 1953	86.0	5083	USGS 1980	DESTROYED
(C-35-17) 1CDC2	BROWN	1964	300	14	5169	05 1964	47 0	5122	USGS 1980	
(C-35-17) 1DCC1	BROWN	1900	180	6	5160	07 1967	86.0	5074	USGS 1980	
(C-35-17) 1DCC2	BROWN	1947	257	16	5160	07 1953	58 0	5102	USGS 1980	DESTROYED
(C-35-17) 1DCC3	BROWN	1955	215	14	5160	08 1955	41 0	5119	USGS 1980	
(C-35-17) 1DDC1	BROWN	1952	219	14	5157	04 1977	56 0	5101	USGS 1980	
(C-35-17) 2AAC1	OWENS	1975	163	8	5163	08 1975	40 0	5123	USGS 1980	
(C-35-17) 2ABA1	THOMAS	1972	193	8	5164	10 1972	60 0	5104	USGS 1980	
(C-35-17) 2ACA1	STADTLANDER	1975	193	8	5164	01 1975	51 0	5113	USGS 1980	
(C-35-17) 2ACD1	THOMAS	1977	206	6	5165	03 1977	40 0	5125	USGS 1980	
(C-35-17) 2DCC1	THOMAS	1947	160	16	5170	10 1979	69 0	5101	USGS 1980	
(C-35-17) 2DDD1	THOMAS	1973		8	5165	09 1973	72 0	5093	USGS 1980	
(C-35-17) 3BBB1	SANDERS	1916	100	12	5187	12 1953	50 0	5137	USGS 1980	
(C-35-17) 3CCC1	NIELSON	1947	237	14	5190	10 1979	74 0	5116	USGS 1980	
(C-35-17) 4ACC1	BOWLER	1947	224	14	5194	07 1977	104 0	5090	USGS 1980	
(C-35-17) 4DCC1	MORGAN	1948	207	14	5199	04 1977	79 0	5120	USGS 1980	
(C-35-17) 7DAA1	CANNON	1947	200	12	5231	10 1979	108 0	5123	USGS 1980	
(C-35-17) 7DAA2	CANNON	1974	301	16	5230	05 1974	105 0	5125	USGS 1980	
(C-35-17) 8ABD1	THOMAS	1970	200	8	5204	07 1970	87 0	5117	USGS 1980	
(C-35-17) 8CBB1	CANNON	1920	96	6	5229	12 1954	89 0	5140	USGS 1980	
(C-35-17) 8CBB2	CANNON	1950	164	9	5230	03 1951	87 0	5143	USGS 1980	
(C-35-17)10AAA1	MILLET	1973	198	8	5178	12 1973	75 0	5103	USGS 1980	
(C-35-17)10AAB1	THOMAS	1974	184	8	5180	07 1974	73 0	5107	USGS 1980	
(C-35-17)10BBA1	THOMAS	1973	179	8	5187	09 1973	74 0	5113	USGS 1980	
(C-35-17)10BBA2	THOMAS	1974	197	8	5185	07 1974	77 0	5108	USGS 1980	
(C-35-17)10BBD1	THOMAS	1973	180	8	5187	09 1973	75 0	5112	USGS 1980	
(C-35-17)12ABB1	WILSON	1942	110	13	5160	04 1977	59 0	5101	USGS 1980	
(C-35-17)12ACC1	WILSON	1924	90		5161	05 1937	22 0	5139	USGS 1980	
(C-35-17)12ACC2	WILSON	1955	149	14	5161	03 1977	61 0	5100	USGS 1980	
(C-35-17)12ACC3	WILSON	1960	360	16	5161	04 1960	38 0	5123	USGS 1980	
(C-35-17)12BAB1	ANDERSON	1936	86	12	5162				USGS 1980	DESTROYED
C-35-17)12BCC1	PRICE	1948	161	14	5167	03 1978	68 0	5099	USGS 1980	
(C-35-17)12BDC1	ANDERSON	1951	252	10	5165	04 1967	54 0	5111	USGS 1980	DESTROYED
(C-35-17)12BDC2	WILSON	1968	347	14	5165	04 1977	63 0	5102	USGS 1980	
(C-35-17)12CAB1	ANDERSON	1953	197	6	5164	05 1967	69 0	5095	USGS 1980	
(C-35-17)12DCD1	WILSON	1924	100	12	5160	05 1937	21 0	5139	USGS 1980	DESTROYED

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(C-35-17)12DCD2	WILSON	1949	.02	12	5160	04 1977	68 0	5092	USGS 1980	
(C-35-17)12DDC1	WILSON	1949	200	16	5160	04 1977	67 0	5093	USGS 1980	
(C-35-17)13ACC1	CHRISTENSEN	1940	130	10	5164	04 1949	27 0	5137	USGS 1980	DESTROYED
(C-35-17)13ACC2	CHRISTENSEN	1954	272	16	5164	03 1954	34 0	5130	USGS 1980	
(C-35-17)13ADC1	CHRISTENSEN	1941	236	10	5162	10 1955	40 0	5122	USGS 1980	
(C-35-17)13BCC1	MOYLE	1940	150	16	5169	07 1950	38 0	5131	USGS 1980	
(C-35-17)13BDC1	MOYLE	1934	100	16	5166	10 1979	76 0	5090	USGS 1980	
(C-35-17)13BDC2	MOYLE	1931	110		5166				USGS 1980	DESTROYED
(C-35-17)13BDD1	MOYLE	1931	75		5165				USGS 1980	
(C-35-17)13CAA1	MOYLE	1931	40	8	5164	05 1937	24 0	5140	USGS 1980	DESTROYED
(C-35-17)13CBC1	MOYLE	1935	90	20	5169	07 1951	54 0	5115	USGS 1980	DESTROYED
(C-35-17)13CBC2	MOYLE				5169				USGS 1980	
(C-35-17)13CCC1	MOYLE	1949	200	16	5170	12 1954	41 0	5129	USGS 1980	
(C-35-17)14CCC1	HUNTSMAN	1947	300	16	5182	03 1978	78 0	5104	USGS 1980	
(C-35-17)14CDA1	HUNTSMAN	1976	497	16	5175	09 1977	155 0	5020	USGS 1980	
(C-35-17)14DAB1	HUNTSMAN	1976	250	6	5176	09 1977	76 0	5100	USGS 1980	
(C-35-17)16CCD1	ATTUSO	1977	203	8	5210	11 1977	97 0	5113	USGS 1980	
(C-35-17)16CDD1	THOMAS	1974	180	8	5203				USGS 1980	
(C-35-17)18ABD1	COX	1970	180	8	5236	04 1970	107 0	5129	USGS 1980	
(C-35-17)18ACB1	SMITH	1976	200	6	5240	09 1976	40 0	5200	USGS 1980	
(C-35-17)18ACC1	THOMAS	1972	180	8	5238	06 1972	111 0	5127	USGS 1980	
(C-35-17)18ADD1	BYERLY	1971	180	8	5231	08 1971	101 0	5130	USGS 1980	
(C-35-17)18DAB1	DUFOUR	1969	176	8	5233	09 1969	115 0	5118	USGS 1980	
(C-35-17)18DAD1	PATTON	1969	185	6	5233	04 1969	104 0	5129	USGS 1980	
(C-35-17)20AAD1	THOMAS	1900	70	40	5215				USGS 1980	DESTROYED
(C-35-17)20ACD1	THOMAS	1966	278	6	5214	02 1966	87 0	5127	USGS 1980	
(C-35-17)20ADA1	JACKSON	1975	200	8	5209	08 1975	96 0	5113	USGS 1980	
(C-35-17)20ADD1	MC DONALD	1969	150	8	5209	01 1969	85 0	5124	USGS 1980	
(C-35-17)21ADD1	SIMPKINS	1917	72	6	5194	12 1958	20 0	5174	USGS 1980	DESTROYED
(C-35-17)21BDA1	SIMPKINS	1950			5203				USGS 1980	
(C-35-17)22BCB1	CASADAS	1900	55	7	5193				USGS 1980	DESTROYED
(C-35-17)22BCB2	CASADAS	.946	162	16	5194	03 1979	86 0	5108	USGS 1980	
(C-35-17)22BCB3	CASADAS	1974	207	16	5194	09 1977	73 0	5121	USGS 1980	
(C-35-17)22BDB1	SANDERS	1945	60	12	5192				USGS 1980	DESTROYED
(C-35-17)22BDB2	SANDERS	1957	25	6	5192				USGS 1980	DESTROYED
(C-35-17)23ACB1	MOYLE	1948	304	16	5175	12 1950	39 0	5136	USGS 1980	DESTROYED
(C-35-17)23ACB2	MOYLE	1975	150	16	5175	05 1937	35 0	5140	USGS 1980	DESTROYED
(C-35-17)24BBB1	ALLEN	1950	150	6	5170	09 1935	35 0	5135	USGS 1980	DESTROYED
(C-35-17)25AAC1	KANE	1915	80	12	5173	05 1937	37 0	5136	USGS 1980	DESTROYED
(C-35-17)25ADA1	KANE	1900	110	48	5168	10 1937	38 0	5130	USGS 1980	DESTROYED
(C-35-17)25CBC1	KANE	1900	52	60	5172	09 1941	39 0	5133	USGS 1980	DESTROYED
(C-35-17)25CDA1	KANE	1934	75		5179	05 1941	37 0	5142	USGS 1980	
(C-35-17)25CDD1	KANE	1900	150	12	5179	06 1958	56 0	5123	USGS 1980	DESTROYED
(C-35-17)25DCA1	GARDNER	1931	80	16	5181	01 1939	37 0	5144	USGS 1980	DESTROYED
(C-35-17)25DCA2	GARDNER	1927	110	12	5182	07 1953	68 0	5114	USGS 1980	DESTROYED
(C-35-17)25DCA3	GARDNER	1926	63	36	5182	03 1947	37 0	5145	USGS 1980	
(C-35-17)25DCA4	GARDNER	1941	75	12	5181	12 1950	46 0	5135	USGS 1980	
(C-35-17)25DCA5	GARDNER	1963	150	6	5182	12 1972	76 0	5106	USGS 1980	
(C-35-17)25DCD1	WILSON	1949	158	14	5180	10 1979	91 0	5089	USGS 1980	
(C-35-17)30ABD1	SANDERS	1916	216	8	5217	03 1978	99 0	5118	USGS 1980	
(C-35-17)36AAA1	WHITELAW	1947	167	6	5177	11 1965	84 0	5093	USGS 1980	
(C-35-17)36ACC1	WHITELAW	1974	174	16	5185	07 1974	112 0	5073	USGS 1980	
(C-35-17)36CAB1	THOMAS	1972	216	8	5192	08 1976	194 0	4998	USGS 1980	
(C-35-17)36CDC1	THOMAS	1973		8	5196				USGS 1980	
(C-35-17)36DCC1	BROWN	1945	200	16	5190	03 1979	100 0	5090	USGS 1980	
(C-35-17)36DCC2	BROWN	1965		6	5191				USGS 1980	
(C-35-18) 1CDD1	THOMAS	1974		8	5249				USGS 1980	
(C-35-18) 3BBB1	THORLEY	1973	216	8	5330	03 1978	195 0	5135	USGS 1980	
(C-35-18)12CBB1	THOMAS	1973	182	8	5262	10 1973	132 0	5130	USGS 1980	
(C-35-18)12CDA1	THOMAS	1972	180	8	5266	06 1972	133 0	5133	USGS 1980	
(C-35-18)12CDB1	THOMAS	1974	184	8	5268				USGS 1980	
(C-35-18)12DBC1	THOMAS	1973	182	8	5264	03 1973	130 0	5134	USGS 1980	
(C-35-18)12DBC2	SCHALLORN	1978	185	6	5262	09 1978	123 0	5139	USGS 1980	
(C-35-18)12DDD1	THOMAS	1972	190	8	5255	06 1972	126 0	5129	USGS 1980	
(C-35-18)29CCC1	THOMAS	1974	278	8	5373	03 1978	229 0	5144	USGS 1980	
(C-35-18)31ADC1	SANDERS	1972	420	6	5419	10 1972	292 0	5127	USGS 1980	
(C-35-18)36CBC1	PEDERSON	1978	248	8	5263				USGS 1980	
(C-35-19)19AAD1	BLM	1935	152	6	5582	03 1933	100 0	5482	USGS 1980	
(C-36-15) 4AAC1	US STEEL CORP	1950	258	16	5223	12 1958	92 0	5131	USGS 1980	DESTROYED
(C-36-15) 4ACD1	HOLT	1976	400	16	5233	03 1976	114 0	5119	USGS 1980	
(C-36-15) 4BAD1	US STEEL CORP	1952		16	5222	03 1962	94 0	5128	USGS 1980	DESTROYED
(C-36-15) 4BAD2	US STEEL CORP	1964	307	16	5222	06 1964	97 0	5125	USGS 1980	DESTROYED
(C-36-15) 4BAD3	US STEEL CORP	1972	320	16	5222	03 1979	124 0	5098	USGS 1980	
(C-36-15) 4CDC1	US STEEL CORP	1947	245	18	5249	08 1956	116 0	5133	USGS 1980	DESTROYED
(C-36-15) 4DCC1	US STEEL CORP	1968	355	16	5249				USGS 1980	
(C-36-15) 4DCC2	US STEEL CORP	1947	355	16	5249	03 1978	149 0	5100	USGS 1980	
(C-36-15) 5CCC1	JONES BROS	1941	180	6	5231	10 1979	135 0	5096	USGS 1980	
(C-36-15) 7CDD1	BAR V RANCH	1945			5227	06 1953	104 0	5123	USGS 1980	DESTROYED
(C-36-15) 7CDD2	BAR V RANCH	1972	500		5227	05 1978	124 0	5103	USGS 1980	
(C-36-15) 8ACD1	HOLT	1977	603	16	5253				USGS 1980	
(C-36-15) 8CCA1	TULLIS	1953	250	14	5255	09 1976	155 0	5100	USGS 1980	
(C-36-15) 8CCD1	TULLIS	1924	120		5255				USGS 1980	
(C-36-15) 8CCD2	TULLIS	1953	270	6	5255	04 1953	114 0	5141	USGS 1980	
(C-36-15) 8DAD1	HOLT	1964	300	16	5273				USGS 1980	
(C-36-15) 8DBD1	HOLT	1920	125		5265	09 1941	117 0	5148	USGS 1980	DESTROYED

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(C-36-15) 9BCB1	HULET	1977	498	16	5255	04 1977	67 0	5188	USGS 1980	
(C-36-15) 9CDD1	HART	1971	320	16	5290	01 1971	176 0	5114	USGS 1980	
(C-36-15) 9DAC1	TAYLOR	1900	200	6	5283	03 1978	183 0	5100	USGS 1980	
(C-36-15) 9DAC2	TAYLOR	1973	291	8	5284	03 1973	178 0	5106	USGS 1980	
(C-36-15) 9DAC3	TAYLOR	1964	300	16	5285	09 1964	164 0	5121	USGS 1980	
(C-36-15) 9DCC1	BUHL	1972	301	16	5288	11 1972	180 0	5108	USGS 1980	
(C-36-15)11CAB1	BLM	1935	536	6	5508				USGS 1980	
(C-36-15)16BCD1	SULLIVAN	1941	181		5300	12 1941	175 0	5125	USGS 1980	DESTROYED
(C-36-15)16CAB1	BEACHAM	1941	186	6	5317	03 1950	170 0	5147	USGS 1980	DESTOYED
(C-36-15)16DAB1	FORSYTH	1922	74	6	5320				USGS 1980	
(C-36-15)17BBA1	TULLIS	1971	417	16	5256	03 1979	155 0	5101	USGS 1980	
(C-36-15)18CCA1	RIGGS	1919	92	42	5234				USGS 1980	DESTROYED
(C-36-15)18CCC1	BAR V RANCH	1959	336	16	5210	09 1959	78 0	5132	USGS 1980	DESTROYED
(C-36-15)18CCC2	BAR V RANCH	1969	480	16	5210	03 1978	104 0	5106	USGS 1980	
(C-36-15)18CCC3	BAR V RANCH	1972	500	16	5210	03 1978	109 0	5101	USGS 1980	
(C-36-15)18DDA1		1945			5227	03 1979	124 0	5103	USGS 1980	
(C-36-15)18DDD1	BAR V RANCH	1950	233	18	5224	03 1978	120 0	5104	USGS 1980	
(C-36-15)18DDD2	BAR V RANCH	1972	490	16	5224	05 1972	90 0	5134	USGS 1980	
(C-36-15)19ABC1	CHRISTENSEN	1900	62	42	5233				USGS 1980	DESTROYED
(C-36-15)19CCC1		1947			5233	10 1979	133 0	5100	USGS 1980	
(C-36-15)20BAC1	CHRISTENSEN	1921	121	36	5276	10 1946	120 0	5156	USGS 1980	DESTROYED
(C-36-15)20BBC1	CHRISTENSEN	1976	500	16	5262	10 1977	156 0	5106	USGS 1980	
(C-36-15)22CDD1	NEWCASTLE	1945	75	12	5420	05 1950	5 0	5415	USGS 1980	DESTROYED
(C-36-15)27ABB1	NEWCASTLE	1946	66	16	5424	05 1950	5 0	5419	USGS 1980	DESTROYED
(C-36-16) 1DDA	BAR V RANCH	1948	100	5	5211	07 1958	65 0	5146	USGS 1980	
(C-36-16) 1DDD1	BAR V RANCH	1948	200	18	5209	07 1948	76 0	5133	USGS 1980	
(C-36-16) 1L13-1	NEWCASTLE	1977	502	8	5194	03 1977	98 0	5096	USGS 1980	
(C-36-16) 1L13-2	ARCHANBANEY	1972	180	8	5195	05 1972	86 0	5109	USGS 1980	
(C-36-16) 1L14-1	HALE	1974	180	8	5191	02 1974	92 0	5099	USGS 1980	
(C-36-16) 3CAC1	BAR V RANCH	1949	209	20	5182	05 1978	99 0	5083	USGS 1980	
(C-36-16) 3DDC1	BAR V RANCH	1952	206	20	5189	03 1979	103 0	5086	USGS 1980	
(C-36-16) 3L 9-1	PACIFIC WEST	1942	115	12	5178	10 1979	94 0	5084	USGS 1980	
(C-36-16) 3L11-1	PRICE	1970	160	8	5180	04 1970	79 0	5101	USGS 1980	
(C-36-16) 44CA1	ANZALONE	1972	200	8	5191	12 1972	106 0	5085	USGS 1980	
(C-36-16) 4BAA1	SEVY	1954	142	6	5192	03 1954	57 0	5135	USGS 1980	
(C-36-16) 4BAA2	THOMAS	1971	170	8	5192	06 1971	97 0	5095	USGS 1980	
(C-36-16) 4BAB1	CROSSROAD EG CO	1959	143	6	5190	04 1959	70 0	5120	USGS 1980	
(C-36-16) 4BAC1	JAMESON	1973	191	8	5195	08 1973	100 0	5095	USGS 1980	
(C-36-16) 4BBB1	HOLT	1952	99	6	5191	06 1952	58 0	5133	USGS 1980	DESTROYED
(C-36-16) 4BCB1	HOLT	1936	100		5198				USGS 1980	DESTROYED
(C-36-16) 4CAA1	WALKER	1971	180	8	5194	03 1971	90 0	5104	USGS 1980	
(C-36-16) 4CAB1	THOMAS	1968	140	8	5196	07 1968	94 0	5102	USGS 1980	
(C-36-16) 4CAB2	THOMAS	1968	150	8	5196	03 1968	87 0	5109	USGS 1980	
(C-36-16) 4CAC1	BAGNE	1975	186	8	5195	02 1975	90 0	5105	USGS 1980	
(C-36-16) 4CAD1	HITT	1973	182	8	5194	07 1973	98 0	5096	USGS 1980	
(C-36-16) 4CDC1	LUND	1912			5198	12 1942	53 0	5145	USGS 1980	DESTROYED
(C-36-16) 4CDC2	LUND	1958	149	6	5200	05 1958	73 0	5127	USGS 1980	
(C-36-16) 4DBD1	SEVY	1950	224	16	5186	09 1950	45 0	5141	USGS 1980	DESTROYED
(C-36-16) 4DBD2	SEVY	1964	300	16	5186	06 1964	79 0	5107	USGS 1980	
(C-36-16) 4L 1-1	WOOD	1961	136	6	5179	10 1961	65 0	5114	USGS 1980	
(C-36-16) 4L 1-2	LAPOMA CO	1967	186	6	5180	06 1967	87 0	5093	USGS 1980	
(C-36-16) 4L 1-3	FULLER	1970	250	8	5180	08 1970	90 0	5090	USGS 1980	
(C-36-16) 4L 2-1	WOOD	1950	145	6	5181	08 1967	82 0	5099	USGS 1980	
(C-36-16) 4L 2-2	E S C V	1961	148	10	5181	01 1961	60 0	5121	USGS 1980	
(C-36-16) 4L 3-1	CRAWFORD	1966	158	6	5181	03 1966	83 0	5098	USGS 1980	
(C-36-16) 4L 5-1	HOLT	1946	250	14	5187	04 1978	98 0	5089	USGS 1980	
(C-36-16) 4L 5-2	HOLT	1966	152	6	5186	06 1966	86 0	5100	USGS 1980	
(C-36-16) 4L 6-1	HOLT	1952	121	6	5184	07 1952	57 0	5127	USGS 1980	
(C-36-16) 4L 6-2	HOLT	1952			5185	06 1953	52 0	5133	USGS 1980	
(C-36-16) 4L 7-1	THOMAS	1970	177	8	5192	09 1970	95 0	5097	USGS 1980	
(C-36-16) 4L11-1	THOMAS	1973	178	8	5184	10 1973	90 0	5094	USGS 1980	
(C-36-16) 4L13-1	HOLT	1925	100	12	5190	04 1939	42 0	5148	USGS 1980	DESTROYED
(C-36-16) 4L13-2	HOLT	1940	144	12	5191	09 1941	44 0	5147	USGS 1980	
(C-36-16) 4L14-1	FRAILEY	1947	92	8	5190	03 1947	48 0	5142	USGS 1950	
(C-36-16) 4L14-2	THOMAS	1968	180	8	5190	05 1968	80 0	5110	USGS 1980	
(C-36-16) 4L14-3	HOLT	1954	101	7	5180	03 1954	44 0	5136	USGS 1980	DESTROYED
(C-36-16) 4L15	LACKEY	1947	207	16	5190	10 1962	80 0	5110	USGS 1980	
(C-36-16) 4L15-2	LACKEY	1972	180	8	5190	05 1972	96 0	5094	USGS 1980	
(C-36-16) 4L15-3	ANDERSON	1972	200	8	5191	12 1972	106 0	5085	USGS 1980	
(C-36-16) 5ADA1	HOLT	1900		8	5196	12 1947	52 0	5144	USGS 1980	
(C-36-16) 5ADA2	HOLT	1950			5195				USGS 1980	
(C-36-16) 5ADC1	HOLT	1944	180	12	5197	03 1978	110 0	5087	USGS 1980	
(C-36-16) 5BCD1	HOLT	1977	675	16	5194	03 1978	105 0	5089	USGS 1980	
(C-36-16) 5BDD1	HOLT	1943	150	12	5197	03 1960	76 0	5121	USGS 1980	
(C-36-16) 5BDD2	HOLT	1959	353	16	5198	03 1978	109 0	5089	USGS 1980	
(C-36-16) 5CAD1	HOLT	1943	160	12	5200	10 1943	52 0	5148	USGS 1980	DESTROYED
(C-36-16) 5CAD2	HOLT	1960	300	16	5200	03 1978	114 0	5086	USGS 1980	
(C-36-16) 5DAC1	HOLT	1977	726	16	5198	03 1978	108 0	5090	USGS 1980	
(C-36-16) 5DDC1	HOLT	1964	298	16	5203	01 1976	117 0	5086	USGS 1980	DESTROYED
(C-36-16) 5L 1-1	GARDNER	1945	200	12	5183	03 1978	95 0	5088	USGS 1980	
(C-36-16) 5L 1-2	GARDNER	1963	179	8	5183	07 1963	81 0	5102	USGS 1980	
(C-36-16) 5L 5-1	HARKER	1948	210	16	5190	12 1954	60 0	5130	USGS 1980	
(C-36-16) 5L 9-1	HUNT	1915			5188				USGS 1980	DESTROYED
(C-36-16) 5L 9-2	HUNT	1941	140	12	5188	03 1943	44 0	5144	USGS 1980	

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WELL LOCATION	OWNER OR WATER USER	YEAR OF COMPLETION	DEPTH OF WELL (feet)	DIAMETER OF CASING (inches)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DATE OF MEASUREMENT (mo yr)	DEPTH TO WATER (feet)	WATER LEVEL ELEVATION (feet above m.s.l.)	REFERENCES	REMARKS
(C-36-16)5L 9-3	HUNT	1962	161	6	5188	07 1962	85 0	5103	USGS 1980	
(C-36-16)5L10-1	HUNT	1926	112		5187				USGS 1980	DESTROYED
(C-36-16)5L11-1	HARKER	1943	156	12	5189	12 1953	52 0	5137	USGS 1980	
(C-36-16)5L11-2	HARKER	1967	347	16	5189	04 1978	98 0	5091	USGS 1980	
(C-36-16)5L14-1	HARKER	1966	156	6	5191	04 1966	87 0	5104	USGS 1980	
(C-36-16)5L15-1	WILSON	1940	140	12	5191	07 1969	96 0	5095	USGS 1980	
(C-36-16)5L15-2	WILSON			16	5191	04 1978	03 0	5088	USGS 1980	
(C-36-16)5L16-1	WILSON	1914	150	8	5191	03 1943	44 0	5147	USGS 1980	DESTROYED
(C-36-16)5L16-2	WILSON	1916	44		5188				USGS 1980	DESTROYED
(C-36-16)5L16-3	WILSON	1926	112		5188	05 1937	41 0	5147	USGS 1980	DESTROYED
(C-36-16)5L16-4	WILSON	1959	154	6	5191	04 1959	70 0	5121	USGS 1980	
(C-36-16)6CAC1	HOLT	1951	200	16	5205	11 1952	72 0	5133	USGS 1980	
(C-36-16)6CBC1	HOLT	1951	270	16	5210	03 1979	124 0	5086	USGS 1980	
(C-36-16)6L 8-1	HOLT	1959	299	16	5191	07 1969	92 0	5099	USGS 1980	
(C-36-16)6L13-1	HOLT	1951	288	16	5200	08 1969	118 0	5082	USGS 1980	
(C-36-16)6L14-1	HOLT	1951	290	16	5200	03 1961	81 0	5119	USGS 1980	
(C-36-16)6L 14-2	HOLT	1964	266	6	5197	03 1964	85 0	5112	USGS 1980	
(C-36-16)7CCA1	HOLT	1978			5210	04 1978	114 0	5096	USGS 1980	
(C-36-16)7DAC1	RANDALL BROS	1973	450	16	5204	04 1978	112 0	5092	USGS 1980	
(C-36-16)8ABD1	RANDALL BROS	1973	332	16	5207	04 1973	109 0	5098	USGS 1980	
(C-36-16)8CBA1	RANDALL BROS	1969	405	16	5213	05 1969	107 0	5106	USGS 1980	
(C-36-16)8DCC1	FARNSWORTH	1962	300	16	5206	05 1962	89 0	5117	USGS 1980	
(C-36-16)8DDD1	FARNSWORTH	1900	64	8	5203	10 1948	61 0	5142	USGS 1980	
(C-36-16)9ACD1	HOLT	1946	214	14	5196	06 1946	52 0	5144	USGS 1980	DESTROYED
(C-36-16)9ACD2	COX		214		5200				USGS 1980	
(C-36-16)9ADC1	MATHIAS	1958	142	6	5196	03 1958	68 0	5128	USGS 1980	
(C-36-16)9ADC2	HOLT	1976	650	16	5196				USGS 1980	
(C-36-16)9BBA1	HOLT	1964	216	6	5206	10 1964	102 0	5104	USGS 1980	DESTROYED
(C-36-16)9BBA2	HOLT	1973	160	8	5206	08 1973	116 0	5090	USGS 1980	
(C-36-16)9BDC1	BERRY	1945	272	14	5196	03 1979	109 0	5087	USGS 1980	
(C-36-16)9CCB1	HOLT	1978	683	16	5201	03 1978	108 0	5093	USGS 1980	
(C-36-16)9CCC1	HOLT	1959	298	16	5203	06 1959	81 0	5122	USGS 1980	DESTROYED
(C-36-16)9CCC2	HOLT	1971	336	16	5203	07 1971	114 0	5089	USGS 1980	
(C-36-16)9DCC1	HOLT	1959	299	16	5200	09 1959	86 0	5114	USGS 1980	
(C-36-16)9DDA1	BRACKEN	1973	141	8	5152	10 1973	67 0	5085	USGS 1980	
(C-36-16)10BBD1	GENTRY	1945	290	14	5192	12 1953	58 0	5134	USGS 1980	
(C-36-16)10BBD2	GENTRY	1975	505	16	5192	03 1975	90 0	5102	USGS 1980	
(C-36-16)10CCC1	GENTRY	1955	148	6	5195	04 1968	90 0	5105	USGS 1980	
(C-36-16)10DDC1	GENTRY	1947	340	14	5196	02 1947	48 0	5148	USGS 1980	DESTROYED
(C-36-16)11BBC1	BAR V RANCH				5190	04 1978	98 0	5092	USGS 1980	
(C-36-16)11CAA1	BAR V RANCH	1950	210	20	5190	03 1979	99 0	5091	USGS 1980	
(C-36-16)11CDD1	BAR V RANCH	1952	214	20	5196	10 1977	103 0	5093	USGS 1980	DESTROYED
(C-36-16)12BDD1	BAR V RANCH	1950	395	14	5198	05 1978	105 0	5093	USGS 1980	
(C-36-16)13DDC1	CHRISTENSEN	1950	403	16	5218	03 1978	110 0	5108	USGS 1980	
(C-36-16)15CDD1	JONES BROS		200		5213				USGS 1980	
(C-36-16)16ACC1	GARDNER	1963	298	16	5206	06 1963	92 0	5114	USGS 1980	
(C-36-16)16BCC1	GARDNER				5208				USGS 1980	DESTROYED
(C-36-16)16BCC2	GARDNER	1963	190	8	5208	12 1963	88 0	5120	USGS 1980	
(C-36-16)16BCC3	GARDNER	1959	300	16	5208	08 1959	88 0	5120	USGS 1980	
(C-36-16)16CCC1	GARDNER	1958	346	16	5215	05 1958	85 0	5130	USGS 1980	
(C-36-16)16DCD1	JONES BROS	1913			5211				USGS 1980	DESTROYED
(C-36-16)16DDA1	JONES BROS	1920	68	48	5208	03 1951	66 0	5142	USGS 1980	DESTROYED
(C-36-16)16DDA2	JONES BROS.	1925	70	8	5208	12 1942	57 0	5151	USGS 1980	DESTROYED
(C-36-16)17CBB1	FARNSWORTH	1967	370	16	5224	08 1969	128 0	5096	USGS 1980	
(C-36-16)17CBD1	HOLT	1972	400	16	5218	03 1972	116 0	5102	USGS 1980	
(C-36-16)17DBB1	HUMPHRIES	1948	404	16	5210	07 1952	89 0	5121	USGS 1980	
(C-36-16)18AAC1	HOLT	1971	330	16	5220	05 1971	112 0	5108	USGS 1980	
(C-36-16)19ABB1	JONES	1945	352	16	5226	03 1979	139 0	5087	USGS 1980	
(C-36-16)19ABC1	JONES	1974	502	16	5230				USGS 1980	
(C-36-16)19CAA1	BRACKEN	1912	102	8	5233	12 1954	97 0	5136	USGS 1980	DESTROYED
(C-36-16)20ABB1	BOWLER	1948	400	16	5219	10 1962	96 0	5123	USGS 1980	
(C-36-16)20ABB2	HOLT	1975	200	8	5219	08 1975	148 0	5071	USGS 1980	
(C-36-16)20BCC1	JONES BROS	1967	507	16	5228	04 1978	137 0	5091	USGS 1980	
(C-36-16)20DBB1	GARDNER	1948	400	16	5225	04 1978	135 0	5090	USGS 1980	
(C-36-16)20DCC1	TWITCHELL	1965	340	16	5230	04 1978	140 0	5090	USGS 1980	
(C-36-16)21ABB1	JONES BROS	1945	351	16	5215				USGS 1980	
(C-36-16)21BCC1	JONES BROS	1959	335	16	5222	03 1959	92 0	5130	USGS 1980	
(C-36-16)21CAB1	TERRY	1914	95		5226				USGS 1980	DESTROYED
(C-36-16)21CCC1	TERRY	1974	217	8	5228	08 1974	148 0	5080	USGS 1980	
(C-36-16)21CDD1	TERRY	1945	254	10	5233	02 1961	111 0	5122	USGS 1980	DESTROYED
(C-36-16)21CDD2	TERRY	1966	403	16	5233	08 1966	130 0	5103	USGS 1980	
(C-36-16)21DBA1	TERRY	1900	68	42	5222				USGS 1980	DESTROYED
(C-36-16)22BAA	JONES BROS	1917	79	42	5214	12 1942	62 0	5152	USGS 1980	DESTROYED
(C-36-16)22BAA2	JONES BROS	1948	200	10	5214		64 0	5150	USGS 1980	
(C-36-16)23DDD1	SEVY	1940	130	6	5256	12 1955	104 0	5152	USGS 1980	DESTROYED
(C-36-16)23DDD2	SEVY	1968	197	6	5252	04 1978	144 0	5108	USGS 1980	
(C-36-16)27ADD1	HOLT	1976	600	16	5252	03 1978	158 0	5094	USGS 1980	
(C-36-16)27CDC1	HUNT	1950	344	16	5281	03 1979	192 0	5089	USGS 1980	
(C-36-16)27DCD1	HOLT	1919	125	14	5277				USGS 1980	DESTROYED
(C-36-16)27DCD2	HOLT	1936	157	10	5276	07 1957	153 0	5123	USGS 1980	
(C-36-16)28BDB1	HOLT	1977	700	28	5236	02 1977	146 0	5090	USGS 1980	
(C-36-16)29ACD1	GARDNER	1966	350	16	5236	04 1978	145 0	5091	USGS 1980	
(C-36-16)29BAB1	BOWLER	1947	400	16	5232	04 1978	131 0	5101	USGS 1980	
(C-36-16)29CDC1	STAHELI	1967	330	16	5244	10 1967	140 0	5104	USGS 1980	

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(C-36-16)29DAA1	GARDNER	1945	380	16	5233	03 1979	150 0	5083	USGS 1980	
(C-36-16)30CAB1	RANDALL	1946	400	16	5233	03 1978	145 0	5088	USGS 1980	
(C-36-16)30BAB1	BRACKEN	1946	401	12	5238	03 1974	133 0	5105	USGS 1980	
(C-36-16)30CAB1	BRACKEN	1945	380	16	5248	07 1953	128 0	5120	USGS 1980	
(C-36-16)30CCC1	BRACKEN	1945	400	10	5257	04 1945	97 0	5160	USGS 1980	DESTROYED
(C-36-16)30CCC2	BRACKEN	1958	300	16	5256	03 1974	147 0	5109	USGS 1980	
(C-36-16)30DAB1	BOWLER	1945	392	16	5242	07 1953	129 0	5113	USGS 1980	
(C-36-16)31ABA1	FARNSWORTH	1945	349	16	5250	10 1952	112.0	5138	USGS 1980	
(C-36-16)31ABD1	STAHELI	1942	400	12	5254				USGS 1980	
(C-36-16)31ABD2	STAHELI	1977	685	16	5254	06 1977	174 0	5080	USGS 1980	
(C-36-16)31ACA1	STAHELI	1949	207	8	5255	03 1949	100 0	5155	USGS 1980	
(C-36-16)31ACC1	RANDALL	1941	398	16	5256	03 1979	165 0	5091	USGS 1980	
(C-36-16)31ADD1	STAHELI	1945	380	16	5254	03 1957	118 0	5136	USGS 1980	
(C-36-16)31BAB1	RANDALL	1945	419	12	5255	01 1945	88 0	5167	USGS 1980	
(C-36-16)31CCC1	HOLT	1947	222	14	5271	03 1974	158 0	5113	USGS 1980	
(C-36-16)31CDC1	RANDALL	1949	393	16	5268	03 1974	155 0	5113	USGS 1980	
(C-36-16)31DDC1	RANDALL	1915	120	8	5263	06 1937	106 0	5157	USGS 1980	
(C-36-16)32AAA1	GARDNER	1945	400	16	5250	07 1953	170 0	5080	USGS 1980	
(C-36-16)32AAA2	GARDNER				5250				USGS 1980	
(C-36-16)32AAA3	GARDNER	1960	408	16	5249	06 1960	123 0	5126	USGS 1980	
(C-36-16)32ACC1	B AND J ENT	1971	225	8	5232	02 1971	145 0	5087	USGS 1980	
(C-36-16)32ADD1	CLOVE	1946	400	16	5262	11 1952	123 0	5139	USGS 1980	
(C-36-16)32CAC1	KALTONBORN	1974	397	14	5256				USGS 1980	
(C-36-16)32CCB1	SANDERS	1919	120	4	5258				USGS 1980	DESTROYED
(C-36-16)32CCC1	SANDERS	1917	110	8	5257				USGS 1980	DESTROYED
(C-36-16)32DCD1	SHACKELFORD	1948	156	16	5275				USGS 1980	DESTROYED
(C-36-16)32DDD1	HANSEN	1941	150	8	5280	06 1952	137 0	5143	USGS 1980	DESTROYED
(C-36-16)33ABC1	HUNT	1955	415	14	5272	12 1955	141 0	5131	USGS 1980	
(C-36-16)33BDD1					5200				USGS 1980	
(C-36-16)SL10-2	HUNT	1962	254	16	5187	04 1978	101 0	5086	USGS 1980	
(C-36-17) 1CCC	BLM	1920	74	48	5219	05 1942	69 0	5150	USGS 1980	DESTROYED
(C-36-17) 1CCC2	BLM	1974	170	8	5219	04 1977	127 0	5092	USGS 1980	
(C-36-17)14ACC	DEVOE	1900	138	48	5280	07 1978	138 0	5142	USGS 1980	DESTROYED
(C-36-17)25DDC	LDS	1954	247		5260	03 1974	142 0	5118	USGS 1980	
(C-36-17)36AAD	BRACKEN	1973	363	16	5262	03 1974	150 0	5112	USGS 1980	
(C-36-17)36ADD	BRACKEN	1945	422	14	5266	09 1978	178 0	5088	USGS 1980	
(C-36-17)36DBB	BRACKEN	1945	158	14	5280	03 1963	154 0	5126	USGS 1980	DESTROYED
(C-36-17)36DBB2	BRACKEN	1964	256	6	5277	02 1964	154 0	5123	USGS 1980	
(C-36-17)36DDA1	BRACKEN	1966	300	16	5273	03 1974	156 0	5117	USGS 1980	
(C-36-17)36DDB1	BRACKEN	1948	382	14	5272	03 1978	175 0	5097	USGS 1980	
(C-36-18) [illegible] 2-1	SEVY	1972	181	10	5280	10 1972	150 0	5130	USGS 1980	
(C-36-18)31DCD	TERRY	1977	60	6	5660	06 1977	10 0	5650	USGS 1980	
(C-36-19) 2ADD1	SEVY	1972			5925				USGS 1980	
(C-36-19) 2ADD2	SEVY	1976	380	6	5925	06 1976	320 0	5605	USGS 1980	
(C-37-14) 23AA1	US STEEL CORP		350		6445				USGS 1980	
(C-37-14) 24BD1	LAMB	1971	553	12	5930				USGS 1980	
(C-37-15)34ABC1	HARRISON	1874	125		6048				USGS 1980	
(C-37-15)34ABD1	MC ARTHUR	1971	95	6	6078	08 1971	18 0	6060	USGS 1980	
(C-37-15)34ADC1	HAFEN	1888	88	8	6065	09 1971	18 0	6047	USGS 1980	
(C-37-16) 4BDD1	GARDNER	1976	500	16	5325	03 1979	235 0	5090	USGS 1980	
(C-37-16) 4CCC1	GILLIAM	1966	261	6	5348	09 1966	182 0	5166	USGS 1980	
(C-37-16) 5CCC1	ADAMS	1944	200	16	5285	03 1979	107 0	5178	USGS 1980	
(C-37-16) 7ADA1	BOWLER	1960	207	8	5315	04 1961	160 0	5155	USGS 1980	
(C-37-16) 7DBC1	MOORE	1971	210	8	5344	08 1971	150 0	5194	USGS 1980	
(C-37-16)32CDB1	TERRY	1976	550	10	6100	12 1976	95 0	6005	USGS 1980	
(C-37-17) 1ACD1	BARLOW	1974	302	16	5282	03 1974	82 0	5200	USGS 1980	
(C-37-17)12ACC1	BARLOW		320		5282				USGS 1980	
(C-37-17)12BDC1	PICKERING	1941	73	14	5300	03 1979	14 0	5286	USGS 1980	
(C-37-17)12BDC2	PICKERING	1977	290	16	5300				USGS 1980	
(C-37-17)14AAD1	DAY	1928	42		5318				USGS 1980	DESTROYED
(C-37-17)14ABD1	ENTERPRISE	1928	150	10	5324	09 1941	26 0	5298	USGS 1980	DESTROYED
(C-37-17)14ABD2	ENTERPRISE	1977	350	12	5323	09 1977	41 0	5282	USGS 1980	
(C-37-17)14ADC1	WASHINGTON CO.	1934	60	48	5326	09 1960	51 0	5275	USGS 1980	DESTROYED
(C-37-17)14BAC1	BUSHAR	1944	100	14	5325	03 1979	18 0	5307	USGS 1980	
(C-37-17)14DCD1	BOWLER	1931	58		5365				USGS 1980	DESTROYED
(C-37-17)14DCD3	BOWLER	1974	142	16	5358				USGS 1980	
(C-37-17)31CCD1	TRUMAN		483		5290	10 1962	90 0	5200	USGS 1980	

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APPENDIX C

RECORDS OF SPRINGS

LOCATION	STATION NAME	DATE OF MEASUREMENT (mo. — yr.)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DISCHARGE (GPM)	REFERENCE	REMARKS
(C-24-10)22ADB		1972	4880	500 0	MOWER & CORDOVA 1974	ESTIMATED
(C-25-9) 9ADB	ANTELOPE	9 1971	5080	3 0	MOWER & CORDOVA 1974	
(C-25-12)34DBC	HIGH ROCK	9 1963	5890	0 3	MOWER & CORDOVA 1974	
(C-25-12)35CAA	ARMSTRONG		5645		MOWER & CORDOVA 1974	
(C-26-9)34BD	SALT		6100		USGS 1980	
(C-26-9)34DCB	ROOSEVELT	10 1970	6000		MOWER '74/USGS '80	
(C-26-11)19DBB	WEST		6100		MOWER '74/USGS '80	
(C-26-11)29AAC	SMITH	9 1971	5830	1 0	MOWER & CORDOVA 1974	ESTIMATED
(C-26-11)29ABB	BANDSLEY		6050		MOWER '74/USGS '80	
(C-26-11)29CCC	BRAINFIELD TUNNEL		6100		USGS 1980	
(C-26-12)10BDB	THREE KILNS	9 1971	5970	1 0	MOWER & CORDOVA 1974	
(C-26-12)30DAB	SOUTH SEEP		6590		MOWER & CORDOVA 1974	
(C-26-13)22ACC	CRYSTAL		6920		USGS 1980	
(C-27-9)35DCB	RANCH CANYON	9 1971	6500	19 0	MOWER & CORDOVA 1974	
(C-27-12) 6CAC	COYOTE		6750		MOWER & CORDOVA 1974	
(C-28-9)14CBB	ROCK CORRAL	9 1971	7150	5 0	MOWER & CORDOVA 1974	
(C-28-9)23CDD	MC EWEN		7250		MOWER & CORDOVA 1974	
(C-28-9)29CAD	GRIFFITH		6400		MOWER & CORDOVA 1974	
(C-28-11)24ACC	TADPOLE	6 1972	4970		MOWER & CORDOVA 1974	
(C-28-12)29DCC	WOODHOUSE		6160		MOWER & CORDOVA 1974	
(C-29-9)17BCB	GUY'S		6610		MOWER & CORDOVA 1974	
(C-29-9)19BBB	OAK		9999		USGS 1980	
(C-29-9)29ABB	CREOLE		6380		MOWER & CORDOVA 1974	
(C-29-10)13CDD	SHEARING CORRAL		5840		USGS 1980	
(C-29-10)24CAB	NORTH		5700		USGS 1980	
(C-29-11)15AAD	HAY	6 1972	4995		MOWER & CORDOVA 1974	
(C-29-12) 9CBD	WHEELER	11 1980	9999		ERTEC 1980	
(C-30-9) 7ACA	MINERSVILLE		5302		USGS 1980	
(C-30-9)19BDC			5715		MOWER & CORDOVA 1974	
(C-30-9)31DAA	WILLOW		6160		MOWER & CORDOVA 1974	
(C-30-12)21ADD	THERMO	5 1971	5045	11 0	MOWER & CORDOVA 1974	
(C-30-14) 7BCC	IRON MINE	7 1976	5160	0 1	USGS 1980	EST < 1
(C-31-9) 3CBA	BIG MAPLE		6700		USGS 1980	
(C-31-9) 5BBA	WINE GRASS		6280		USGS 1980	
(C-31-10) 6BDA	DRY WILLOW		6000		USGS 1980	
(C-31-15)12CBA	PROUT DOUTSON		5960		USGS 1980	
(C-31-15)13AAA	CATTLE		5830		USGS 1980	
(C-31-15)13ACB			5915		USGS 1980	
(C-31-15)1[illegible]CAA	BULL		6005		USGS 1980	
(C-31-16)1[illegible]CAB	KEEL		6125		USGS 1980	
(C-31-17)1[illegible]DAA	LONE PINE		6830		USGS 1980	

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(C-31-14)29BBD	PARAMORE	11 1980	5560	6 0	USGS 80/ERTEC 80	
(C-31-15)23ADB	FLINT		6190		USGS 1980	
(C-31-15)25CDA	BRUSH PATCH		6385		USGS 1980	
(C-31-15)25DCA	MARSDEN	11 1980	6120		USGS 80/ERTEC 80	
(C-31-15)32ACA	SAND	7 1976	5875	0 1	USGS 1980	
(C-31-15)32ADC			5938		USGS 1980	
(C-31-15)34ADA	TRAP		6215		USGS 1980	
(C-31-16)33DBB	MEADOW	8 1976	5800	50 0	USGS 1980	ESTIMATED
(C-31-17)17ACA	LE ROY		7300		USGS 1980	
(C-31-17)17ACB	SUMMIT		7450		USGS 1980	
(C-31-17)21AAA	BUTCHER		6940		USGS 1980	
(C-31-17)21AAD			6940		USGS 1980	
(C-31-17)29AAA	BULL		7000		USGS 1980	
(C-31-17)35DBC	TYPHOID		6580		USGS 1980	
(C-32-14)15DAA	SULPHUR	11 1980	5084	1 0	USGS 80/ERTEC 80	ESTIMATED
(C-32-15) 2CCC	ROOT		5940		USGS 1980	
(C-32-15) 2DBC	ROSENBERG		6015		USGS 1980	
(C-32-15) 6AAD	FOURMILE		5760		USGS 1980	
(C-32-15) 9BAC	JENSEN	8 1976	5715	0 5	USGS 1980	
(C-32-16) 3BCD		8 1976	5710	0 1	USGS 1980	
(C-32-16) 3DDC	POLLYWOG	8 1976	5670	5 0	USGS 1980	ESTIMATED
(C-32-16) 4DDD	LITTLE MEADOW		5738		USGS 1980	
(C-32-16) 8BDC		8 1976	5980		USGS 1980	
(C-32-16) 9CDA	BIBLE	8 1976	6090	2 0	USGS 1980	
(C-32-16)12BCC	MOUNTAIN	8 1976	5730	5 0	USGS 1980	ESTIMATED
(C-32-16)29ADC	CHRISTMAS	8 1976	5850	0 1	USGS 1980	
(C-32-16)29ADD	CULVER		5805		USGS 1980	
(C-32-16)31BDB	LITTLE	8 1976	5735	0 1	USGS 1980	
(C-32-17)19DDA		8 1976	6070		USGS 1980	
(C-32-17)19CDB	NORTH TROUGH	8 1976	6125	5 0	USGS 1980	
(C-32-17)20BCB	MUSTANG	8 1976	6145	1 0	USGS 1980	ESTIMATED
(C-32-17)21CAA	PACE NORTH		6155		USGS 1980	
(C-32-17)30ABC	SMITH		6150		USGS 1980	
(C-32-17)36ABB	WOOLEY	8 1976	5755	0 8	USGS 1980	
(C-33-18) 9DCD			6150		USGS 1980	
(C-33-18)10CCC	ADAMS		6210		USGS 1980	
(C-33-18)11ACC	TROUGH NO 1		6260		USGS 1980	
(C-33-17)11BAD	UPPER TROUGH	8 1976	6350	3 0	USGS 1980	ESTIMATED
(C-33-18)11BDC			6320		USGS 1980	
(C-33-18)14ACA	TROUGH NO 2		5880		USGS 1980	
(C-33-18)14DBA	LOWER TROUGH	8 1976	5790	2 0	USGS 1980	ESTIMATED
(C-33-18)31ACD	EIGHTMILE	8 1976	5890	2 0	USGS 1980	ESTIMATED
(C-33-19) 5CBB	PARADISE		7270		USGS 1980	

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LOCATION	STATION NAME	DATE OF MEASUREMENT (mo. — yr.)	ELEVATION OF LAND SURFACE (feet above m.s.l.)	DISCHARGE (GPM)	REFERENCE	REMARKS
(C-33-19)19CBB			7310		USGS 1980	
(C-33-19)20BDC			7240		USGS 1980	
(C-33-19)26BDC		8 1976	6170	0.5	USGS 1980	
(C-33-19)30AAD	SAWMILL		7150		USGS 1980	
(C-33-19)35ABB		8 1976	6085	10.0	USGS 1980	ESTIMATED
(C-33-20)13BCD	SAWMILL		7255		USGS 1980	
(C-33-20)13CCC			7100		USGS 1980	
(C-33-20)13CDD	COTTONWOOD		7215		USGS 1980	
(C-33-20)13DCC	COTTONWOOD		7215		USGS 1980	
(C-33-20)25CCA	GOLD		6740		USGS 1980	
(C-34-18) 5BBB	CAMPSITE		5730		USGS 1980	
(C-34-19) 2CDA		8 1976	5988	0.1	USGS 1980	
(C-34-19) 6DDD	MUD		6465		USGS 1980	
(C-34-19) 8ABD			6405		USGS 1980	
(C-34-19) 9ACA			6365		USGS 1980	
(C-34-19)11ABB		8 1976	5930	75.0	USGS 1980	ESTIMATED
(C-34-19)11BAA	HOUSE	8 1976	5915	3.0	USGS 1980	ESTIMATED
(C-34-19)11DBC	DESERT CANYON	8 1976	5860	5.0	USGS 1980	ESTIMATED
(C-34-19)12DDB	GNAT	8 1976	5945		USGS 1980	
(C-34-19)23DBB	DESERT	8 1976	5655	5.0	USGS 1980	ESTIMATED
(C-34-20) 1CAB	PIKE-NEWELS		6410		USGS 1980	
(C-35-15)24ACB		9 1977	5583	0.3	USGS 1980	
(C-36-13)31AAB	OAK		6360		USGS 1980	
(C-36-14)16CBA	JOEL		6095		USGS 1980	
(C-36-14)21CAA	ALBERT		5955		USGS 1980	
(C-36-14)24ACD	RADDATZ		6450		USGS 1980	
(C-36-14)26BBD			6415		USGS 1980	
(C-36-14)30DDB	DRY WASH		5700		USGS 1980	
(C-36-14)36DDC	CRYSTAL		6595		USGS 1980	
(C-36-15)27BBC	GARDNER		5580		USGS 1980	
(C-36-15)35CDC	HAYFIELD		5620		USGS 1980	
(C-36-18)31CCD		7 1978	5710	20.0	USGS 1980	ESTIMATED
(C-36-18)31DDC	HOUSE		5660		USGS 1980	
(C-36-19)25CAD	NEPHI		5718		USGS 1980	
(C-37-15)16CDD	PLATT		6065		USGS 1980	
(C-37-15)17BBB	OAK		6550		USGS 1980	
(C-37-15)26ABC	COVE		6085		USGS 1980	
(C-37-16)13CDC			5930		USGS 1980	
(C-37-16)13CBD		9 1977	5435	0.1	USGS 1980	ESTIMATED
(C-37-16)25BCA		7 1978	5865	2.0	USGS 1980	
(C-37-16)25BCB			5945	0.5	USGS 1980	
(C-37-16)26AAD		7 1978	5845	5.0	USGS 1980	ESTIMATED
(C-37-16)27BCD		9 1977	5675		USGS 1980	

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(C-37-16)30CCC	WILLOW		5700		USGS 1980	
(C-37-16)30DDA	ROSE	9 1977	5745	0 1	USGS 1980	
(C-37-16)32AAC	CLIFF		6050		USGS 1980	
(C-37-16)32DCB	MUD		6395		USGS 1980	
(C-37-17)17DAD		7 1978	5395	10 0	USGS 1980	ESTIMATED
(C-37-17)17DDA		7 1978	5395	15 0	USGS 1980	ESTIMATED
(C-37-17)26BCC	PENDLETON		5460		USGS 1980	
(C-37-17)27DAB		7 1978	5490	0 1	USGS 1980	
(C-37-17)29BDA	CONVICT		6000		USGS 1980	
(C-37-17)35AAA		7 1978	5515	3 0	USGS 1980	
(C-37-18) 1CCB	FISH WEST		5570		USGS 1980	
(C-37-18) 4CBB	HOUSE EAST	7 1978	5600	1 0	USGS 1980	ESTIMATED
(C-37-18) 4CDA	HUNT		5600		USGS 1980	
(C-37-18) 6BBB	TERRY	7 1978	5785	110 0	USGS 1980	
(C-37-18) 3BAB	LAUB		5740		USGS 1980	
(C-37-18)22BBB	WILLOW		5780		USGS 1980	
(C-38-16) 2ADA	LONE	7 1978	5915	2 0	USGS 1980	ESTIMATED
(C-38-16) 4DAA	TWIN		6370		USGS 1980	
(C-38-17) 1BCC	BULLRUSH	7 1978	5740	3 0	USGS 1980	ESTIMATED
(C-38-17) 1CCC	TOM	7 1978	5900	3 0	USGS 1980	
(C-38-17) 4ABD	CALF MEADOW		5790		USGS 1980	
(C-38-17) 4ACB	WEST CALF	7 1978	5790	200 0	USGS 1980	ESTIMATED
(C-38-17)12CAA	SHINBONE		6100		USGS 1980	
(C-38-18) 5CCC			5995		USGS 1980	
(C-38-18) 5CDB	DAD S		5900		USGS 1980	
(C-38-18) 6CDA	RATTLESNAKE		6162		USGS 1980	
(C-38-18)14BDC		7 1978	6010	4 0	USGS 1980	ESTIMATED

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APPENDIX D

WATER CHEMISTRY DATA

SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo - yr.)	TEMPERATURE °C*	pH*	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C)*	BICARBONATE (HCO_3)*	CARBONATE (CO_3)*	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-27-11) 34dba		5-71	-	7.6	1180	118	0	821*	140	28	66	4.1	270	160	0.3	13	37		2	
(C-27-13) 9ab		10-72	15.0	8.0	4020	132	0	3240*	650	190	100	8.7	1600	600	1.1	0.04	24		2	
(C-28-10) 5dad2		7-78	14.0	7.7	5330	470	-	4130*	270	230	730	13	2300	300	0.6	2.3	43		3	
(C-28-10) 8aad2		7-78	16.0	-	880	140	0	550*	86	29	49	3.7	160	110	0.7	0.97	35		3	
(C-28-10) 8cba		5-71	15.0	7.7	4030	208	0	2820*	290	110	500	13	860	920	0.5	0.4	38		2	
(C-28-10) 14bba		5-71	20.5	8.0	340	134	0	224*	33	6	29	2.2	25	33	0.6	-	27		2	
(C-28-10) 16cda		5-71	19.0	7.9	712	158	-	476*	65	23	50	2.6	160	59	0.6	2.7	26		2	
(C-28-10) 17ccc		6-76	15.0	7.1	4500	280	-	3320*	570	190	290	15	1100	960	0.3	1.3	46		2	
(C-28-10) 18cab		5-71	15.0	7.7	4030	208	-	2820*	290	100	500	13	860	920	0.5	-	38		2	
(C-28-10) 19bcd2		5-71	16.8	7.9	1350	147	0	954*	160	60	51	6	370	190	0.4	0.55	42		2	
(C-28-10) 25cdd1		-	15.0	7.4	1100	152	0	719*	100	49	53	5.0	230	160	-	2.0	38		5	
(C-28-10) 30bdc3		6-71	16.5	7.7	779	137	-	522*	91	24	33	4.4	160	92	0.6	-	42		6	
(C-28-11) 12abb		5-71	20.0	7.9	842	200	-	561*	64	23	72	4.9	130	86	0.9	-	45		6	
(C-28-11) 23cbb3		7-78	16.5	-	1640	220	0	1120*	120	45	160	18	460	150	2.0	0.28	55		3	
(C-28-11) 25dcd		7-78	17.0	-	1800	220	-	1230*	240	59	67	8.8	520	180	0.5	2.0	40		3	
(C-28-11) 35cad		5-71	15.5	7.8	310	131	-	226*	30	8.8	16	3.9	25	19	0.7	-	54		6	
(C-28-11) 36dcc		6-71	13.0	7.6	927	218	-	623*	130	26	43	5.8	120	130	0.5	-	46		6	
(C-29-10) 5add		6-71	14.0	7.9	1030	142	-	670*	120	37	39	4.5	140	180	0.5	-	37		6	
(C-29-10) 5cdd5		7-78	13.5	-	900	270	-	540*	120	25	27	5.0	89	92	0.1	3.6	35		3	
(C-29-10) 8ddd		6-71	14.5	7.8	867	217	-	584*	110	30	35	4.0	120	99	0.4	-	30		6	
(C-29-10) 18daa1		7-78	16.5	-	630	190	-	410*	86	18	23	4.6	66	62	0.4	4.5	33		3	
(C-29-10) 18dcd		6-71	15.0	7.8	778	207	-	525*	100	22	27	4.8	80	95	0.4	-	36		6	
(C-29-11) 1add2		7-78	16.0	7.8	880	190	0	510*	110	23	27	5.5	73	130	0.6	1.6	43		3	
(C-29-11) 4baa		6-71	13.5	7.5	1620	178	-	1110	89	55	200	2.3	490	160	1.5	-	20		6	
(C-29-11) 9cbb		11-80	14.0	8.5	1100	140	0	645	56	24	101	5.7	140	126	0.5	0.4	48		1	
(C-29-11) 10ddd		11-80	13.0	8.6	930	136	0	665	92	20	34	6.1	76	140	1.8	1.5	43		1	
(C-29-11) 12ddd		6-71	14.5	7.6	694	157	-	449*	86	17	22	5.0	62	100	0.5	-	39		6	
(C-29-11) 14cdb1		6-77	18.0	8.0	340	120	0	250*	38	8.7	24	4.4	12	41	0.6	-	42		4	
(C-29-11) 27dad		5-71	15.0	7.9	711	194	-	433*	67	14	47	5.3	67	75	0.6	-	44		6	
(C-29-12) 9cbd		11-80	10.0	8.0	1420	248	0	774	114	28	94	2.1	61	247	0.7	4.4	33		1	Wheeler Spring
(C-29-12) 36cbb		11-80	15.0	7.6	1400	188	0	773	54	16	189	5.6	153	225	1.0	0.3	37		1	
(C-30-11) 22ddc		9-71	22.5	8.2	360	117	-	253*	7.3	1.2	65	2.3	14	36	0.9	-	46		6	

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WATER CHEMISTRY DATA USED IN ANALYSIS, ESCALANTE VALLEY OB STUDY AREA, UTAH

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TABLE D-1

SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo - yr.)	TEMPERATURE °C *	pH *	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C) *	BICARBONATE (HCO_3) *	CARBONATE (CO_3) *	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-30-12) 9add		6-71	15.0	7.5	1250	195	-	823*	55	28	170	3.7	230	180	0.7	-	55		6	
(C-30-13) 8caa		6-71	18.0	7.5	444	158	-	318*	32	11	47	1.8	59	36	0.6	-	43		6	
(C-30-13) 25abb		5-71	13.5	8.0	783	178	-	463*	51	30	57	6.2	84	97	0.4	-	49		6	
(C-30-13) 30bdd		11-78	15.0	8.0	1040	181	-	610*	88	38	55	4.5	160	150	0.7	-	20		3	
(C-31-13) 4bcc		11-80	11.0	8.4	1800	208	0	680	55	39	112	5.4	183	122	0.8	1.1	46		1	
(C-31-13) 5bb		12-80		7.7	855	176	0	490	55	31	59	4.7	102	115	0.6	2.0	-		1	
(C-31-13) 18aad		6-71	14.0	7.3	823	174	-	569*	71	32	57	4.7	180	96	0.7	-	41		6	
(C-31-14) 31acd		11-80	8.0	7.6	720	296	0	440	96	10	35	0.7	28	58	0.07	1.3	34		1	spring
(C-31-15) 13b		11-80	4.0	8.9	740	316	0	420	76	17	44	1.0	31	55	0.1	<0.1	43		1	spring
(C-32-12) 6cbb		11-80	14.0	8.4	1300	228	0	896	85	65	72	6.1	300	105	0.4	5.6	49		1	
(C-32-14) 18daa		11-80	15.0	7.6	1400	188	0	773	54	16	189	5.6	153	225	1.0	0.3	37		1	Sulphur spring
(C-32-16) 26abb2		11-80	13.0	8.0	3700	248	0	2000	162	108	396	3.0	265	749	0.9	<0.1	37		1	
(C-33-14) 17ddd		11-80	13.0	8.5	1200	200	0	621	49	30	144	3.3	136	187	0.4	0.7	22		1	
(C-33-16) 11cdc		11-80	27.0	7.8	3100	428	0	1700	143	23	415	36	372	435	2.9	1.4	54		1	
(C-33-17) 21dd		1-81		7.8	440	150	0	297	43	10	26	6.3	34	35	0.7	1.0	68		1	
(C-33-17) 25add		11-80	10.0	8.4	960	268	0	609	102	24	41	8.0	106	96	<0.1	2.3	56		1	
(C-33-18) 11ba		12-80	12.5	8.3	560	284	0.1	347	60	19	19	2.0	15	26	0.1	<0.1	50		1	Spring
(C-33-18) 32ccd		12-80	9	8.5	420	192	0.2	263	39	7.4	36	1.7	14	25	1.6	0.4	34		1	Spring
(C-34-16) 28dcc-2		6-77	13.5	7.5	980	160	0	625	130	24	35	8.3	91	190	0.6	1.9	59		4	
(C-34-17) 24add		12-80	11.0	8.5	440	171	0.4	304	38	6.7	36	6.7	49	13	1.1	<0.1	65		1	
(C-34-18) 11acc		12-80	20	8.0	1100	307	0.2	679	120	22	51	8.1	210	50	0.5	<0.1	52		1	
(C-34-18) 34ccc		12-80	12	8.4	490	170	0.3	321	38	4.5	44	6.7	41	20	0.9	1.7	68		1	
(C-34-19) 2cda		12-80	9	8.6	390	170	0.1	218	44	9.7	16	4.3	12	23	0.4	0.8	58		1	Spring
(C-34-19) 2dcb		12-80	8	8.7	570	200	0.6	363	68	11	22	5.7	44	47	0.7	<0.1	54		1	Spring
(C-35-15) 28bdd		12-80	10	8.3	1600	226	0.2	934	130	29	130	3.4	310	132	0.7	6.8	40		1	
(C-35-16) 9add-1		6-78	12.5	7.5	[illegible]	210	-	490	110	21	20	6.4	45	120	0.2	3.3	49		3	
(C-35-16) 21dcc-3		6-78	14.0	7.5	520	190	-	310	65	12	17	4.8	18	44	0.2	1.6	47		3	
(C-35-16) 32dcd-1		6-77	18.0	7.4	510	210	0	357	73	13	21	5.8	28	54	0.3	2.1	49		4	
(C-35-17) 8cbb-2		12-80	11.5	8.4	830	310	0.4	673	140	21	33	9.6	112	88	0.3	2.4	54		1	
(C-36-15) 7dcc-1		6-77	22.0	7.7	1400	110	0	1100	90	16	220	9.1	530	73	4.9	1.4	49		4	
(C-36-16) 5aaa-1		6-77	13.5	7.3	1500	340	0	933	230	41	29	8.6	110	270	0.2	8.8	38		4	
(C-36-16) 15cdd		12-80	10	8.9	510	225	0.4	294	65	9	17	2.6	11	32	0.1	.3	40		1	
(C-36-17) 36aad-1		7-78	11.5	-	460	190	-	300	57	11	22	4.8	19	24	0.4	5.8	39		3	
(C-37-16) 4bdc-1		6-77	21.0	8	360	150	0	232	41	7.5	24	1.7	15	30	0.2	-	39		4	
(C-37-16) 4bdd-1		7-78	20.0	-	370	140	-	230	40	7.7	24	1.8	15	31	0.2	-	40		3	
(C-37-17) 12bdc-1		6-77	13.0	7.5	630	300	0	426	84	15	33	5.5	27	32	0.2	7.9	46		4	

* Sum of constituents
** Na + K

REFERENCES: 1. Ertec Western, 1980
2. U.S. Geological Survey, 1979a.
3. U.S. Geological Survey, 1979b.
4. U.S. Geological Survey, 1978
5. U.S. Geological Survey, 1976
6. Mower and Cordova, 1974

All measurements in mg/l unless otherwise noted

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28 MAY 81 TABLE D-1

SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo - yr.)	TEMPERATURE °C *	pH *	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C) *	BICARBONATE (HCO_3) *	CARBONATE (CO_3) *	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-27-10)6dac		6-62	13.3	8.2	1190	250	0	653*	25	15	200**	-	20	240	1.2	-	22		2	
(C-27-10)6ddb		6-62	13.3	8.2	1190	250	-	647	25	15	200**	-	20	240	1.2	-	22		6	
(C-27-10)10bbc		10-69	[illegible]	7.9	4790	227	0	3820	400	230	390**	-	1300	920	-	-	45		2	
(C-27-10)31dcb		9-70	27.1	7.9	450	220	0	316	20	6.4	74	-	31	17	1.2	-	70		2	
(C-28-10)5add		8-79	18.0	8.0	680	-	-	-	42	17	66	2.8	57	130	0.3	0.77	25		2	
(C-28-10)5cdc		10-71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2	
(C-28-10)5dad2		6-75	10.5	7.5	-	446	0	4370	290	250	720	14	2500	320	-	0.08	55		5	
(C-28-10)7aad1		6-50			395	162	0	-	-	-	61**	-	40	16	1.0	-	33		2	
(C-28-10)7aad2		2-52		7.6	-	150	-	333	30	7.7	63**	-	80	28	0.7	-	6.7		2	
(C-28-10)7aad5		2-52		8.0	-	159	-	259	18	3.7	70	-	48	25	0.8	-	6.8		2	
(C-28-10)7adb		12-55	25.5	8.2	390	160	-	253	13	5.8	62	2.8	40	16	0.6	-	35		2	
(C-28-10)8aad		7-73	15.5	7.7	820	139	-	496*	83	26	39	3.5	140	100	-	-	36		2	
(C-28-10)8add2		-	14.5	7.4	800	145	0	517	84	27	43	3.8	150	98	-	0.9	35		5	
(C-28-10)8add2		6-77	17.0	7.8	790	160	0	546	94	27	48	3.7	160	100	0.7	-	34		4	
(C-28-10)8add2		8-79	15.5	7.7	1190	-	-	320	130	40	71	4.5	280	160	0.6	1.1	40		1	
(C-28-10)17bab		5-65	13.3	7.5	2290	269	-	1430*	240	130	47**	-	300	500	0.8	-	47		2	
(C-28-10)17ccc1		6-75	13.0	7.0	5000	263	0	3230	520	180	290	16	1100	940	-	1.1	47		5	
(C-28-10)17cdc		4-50	-	-	3840	200	-	-	-	-	-	-	-	890	-	-	-		2	
(C-28-10)18aca		4-50	21.1	-	365	164	-	-	-	-	56**	-	37	10	1.0	-	34		2	
(C-28-10)18ada		4-50	-	-	2090	230	-	-	-	-	-	-	430	-	-	-	-		2	
(C-28-10)19abc		11-50	25.5	7.8	330	132	8	[illegible]	14	[illegible]	45	[illegible]	-	9.5	0.7	-	32		2	
(C-28-10)21ccd		6-50	14.4	-	1920	136	0	[illegible]*	[illegible]	[illegible]	-	-	[illegible]	350	-	-	62		2	
(C-29-10)28ccc1		6-75	10.0	7.7	1000	142	0	[illegible]	[illegible]	[illegible]	44	4.7	[illegible]	140	-	1.6	37		5	
(C-28-10)28ccc1		6-77	17.0	7.7	1200	150	[illegible]	[illegible]	[illegible]	[illegible]	62	4.9	[illegible]	[illegible]	0.5	-	36		4	
(C-28-10)28ccc1		7-78	17.5	-	1100	120	[illegible]	[illegible]	[illegible]	14	41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	35		3	
(C-28-10)28ccc1		9-79	18.0	7.9	1140	-	-	[illegible]	-	-	-	-	-	-	-	-	-		1	
(C-28-10)24cdd		[illegible]	16.0	8.0	1300	186	-		[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-	-	-		6	
(C-28-10)29b[illegible]		6-50	-	-	3070	340	-		-	-	[illegible]**	-	[illegible]	[illegible]	-	-	48		6	
(C-28-10)29bcd		5-65	17.5	7.2	620	158	-	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	56	0.9	-	38		6	
(C-28-10)29bdd		6-50	13.5	-	3520	168	-	[illegible]*	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	-	-	[illegible]		6	
(C-29-10)29cdc		6-50	-	-	1420	[illegible]		[illegible]			[illegible]		200	[illegible]	-	-	44		6	
(C-28-10)30adc		6-50	13.5	-	325	126					[illegible]		[illegible]	[illegible]	-	-	44		6	

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SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo - yr)	TEMPERATURE °C *	pH *	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C) *	BICARBONATE (HCO_3) *	CARBONATE (CO_3) *	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-28-10) 30bdc		6-50	-	-	3090	332	-	2190*	350	78	260	-	630	440	-	-	53		-	
(C-28-10) 30bdd1		4-50	13.5	-	1850	352	-	-	-	-	-	-	-	290	-	-	-		6	
(C-28-10) 30bdd2		9-61	14.5	7.5	1920	254	-	1490	280	47	99**	-	550	230	-	-	45		6	
(C-28-10) 30cdc		4-50	-	-	2570	512	-	-	-	-	340	-	450	350	0.8	-	45		6	
(C-28-10) 30dbb		5-65	16.0	7.5	385	122	-	263	44	11	18**	-	35	38	0.8	-	39		6	
(C-28-10) 31ddc		6-71	13.5	7.6	930	220	-	627	130	25	33**	-	100	150	0.5	-	41		6	
(C-28-10) 32ccd		4-50	-	-	1420	318	-	-	-	-	48**	-	180	200	0.3	-	-		6	
(C-28-10) 33aba		4-43	-	-	2000	562	-	1330*	98	82	260**	-	440	150	1.3	-	-		6	
(C-28-11) 10acd		11-50	16.5	8.0	990	285	-	616	54	40	99	4.2	170	42	0.3	-	48		6	
(C-28-11) 13dca		4-50	15.5	-	445	152	-	-	-	-	-	-	-	30	-	-	-		6	
(C-28-11) 23abb		10-27	-	-	-	193	-	716	67	26	130	9.6	190	140	-	-	44		6	
(C-28-11) 23cbb		5-71	14.0	8.0	1620	191	-	-	120	54	170	9.4	540	130	-	-	-		6	
(C-28-11) 23cbb2		6-75	14.0	7.3	2800	248	0	2230	220	93	330	15.0	1200	200	-	0.3	40		5	
(C-28-11) 23cbb2		7-78	15.0	-	2130	230	0	1510	180	76	200	10.0	740	150	2.0	0.4	39		3	
(C-28-11) 23cbb3		6-75	14.5	7.2	1650	232	0	1220	130	48	170	19.0	530	150	-	0.13	57		5	
(C-28-11) 23cbb3		8-77	16.5	7.5	800	230	0	1220	130	50	190	18.0	510	150	1.9	-	55		4	
(C-28-11) 23cbb3		8-79	16.0	7.5	1670	-	-	1310	-	-	-	-	-	-	-	-	-		1	
(C-28-11) 25adb		4-50	-	-	2560	322	-	-	-	-	-	-	290	400	0.7	-	-		6	
(C-28-11) 25dcd		5-71	18.0	8.0	1220	180	-	-	150	38	52	5.7	330	140	-	-	-		6	
(C-28-11) 25dcd		6-77	18.0	7.3	1500	220	0	546	220	51	68	3	160	100	0.7	-	34		4	
(C-28-11) 25dcd		8-79	17.5	7.5	1660	-	-	1310	-	-	-	-	-	-	-	-	-		[illegible]	
(C-28-11) 25ddd		6-50	13.5	-	2410	315	-	1610*	260	57	190**	-	530	350	-	-	50		6	
(C-28-11) 35ddd		4-50	-		1200	226	-	-	-	-	30**	-	220	140	1.1	-	-		6	
(C-28-11) 36bba2		4-50	-	-	3060	308	-	-	-	-	-	-	-	460	-	-	-		6	
(C-28-11) 36bba		4-50	-	-	265	130	-	-	-	-	4.8	-	19	10	0.8	-	45		6	
(C-28-11) 36cbd		5-65	13.5	7.2	1580	282	-	1160	180	58	92**	-	360	190	1.1	-	43		6	
(C-28-11) 36cdd		4-50	-	-	790	204	-	-	-	-	-	-	-	98	-	-	-		6	
(C-28-11) 36ddd		6-50	-	-	-	275	-	-	130	27	43	-	130	110	-	-	45		6	
(C-28-12) 29dcc		9-63	22.0	7.7	1110	265	-	720	80	47	76	1.0	40	220	0.6	-	61		6	spring
(C-29-10) 5cdd		9-61	13.3	7.4	1190	271	-	775	173	27	47**	-	165	159	-	-	37		-	
(C-29-10) 5cdd5		5-71	13.5	7.8	410	240	-	-	120	26	30	4.7	110	92	-	-	-		6	
(C-29-10) 5cdd5		6-75	13.0	7.3	900	298	0	562	120	26	29	5.5	100	83	-	3.8	34		5	

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TABLE D-2

SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo - yr)	TEMPERATURE °C*	pH*	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C)*	BICARBONATE (HCO_3)*	CARBONATE (CO_3)*	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-29-10) 5cdd5		8-[illegible]	14.0	7.4	1000	-	-	590	[illegible]	27	30	5.4	120	92	0.3	3.8	36		[illegible]	
(C-29-10) 6aad		5-65	14.0	7.1	950	212	-	681	120	34	34**	-	110	130	0.6	-	37		6	
(C-29-10) 6baa1		4-50	-	-	630	198	-	-	-	-	-	-	69	65	0.4	-	-		6	
(C-29-10) 6baa2		5-65	16.5	7.5	285	123	-	195	34	6.1	19**	-	21	19	0.7	-	37		6	
(C-29-10) 6ddc		4-50	-	-	710	256	-	-	-	-	-	-	-	57	-	-	-		6	
(C-29-10) 17add		6-50	-	-	1350	323	-	855*	170	36	66**	-	160	150	-	-	37		6	
(C-29-10) 17ddd		6-50	-	-	1010	245	-	-	-	-	29**	-	120	120	-	-	38		6	
(C-29-10) 18add		6-50	-	-	815	206	-	-	-	-	46**	-	89	95	-	-	36		6	
(C-29-10) 18add		5-62	13.3	7.2	435	141	-	264	51	11	16	3	41	38	0.2	-	33		6	
(C-29-10) 18daa		5-71	13.5	7.9	515	168	-	329*	64	13	19	3.7	49	49	0.3	-	36		6	
(C-29-10) 18daa1		7-78	16.5	-	630	190	-	410	86	18	23	4.6	66	62	0.4	4.5	33		3	
(C-29-10) 18daa1		9-79	19.0	8.0	390	-	-	250	33	9.5	28	4.9	40	28	0.5	1.3	44		1	
(C-29-10) 27bbd		12-58	12.5	7.5	1010	303	-	642*	110	30	68**	-	150	75	-	-	28		6	
(C-29-11) 1add		5-71	14.0	7.7	870	238	-	-	120	23	34	5.5	83	120	-	-	-		6	
(C-29-11) 1add2		6-75	13.0	7.4	950	257	0	568	120	26	33	6.5	84	120	-	2.9	38		5	
(C-29-11) 1add2		6-77	15.0	7.5	1000	260	0	[illegible]	130	26	34	6.2	93	140	[illegible]	3.4	40		4	
(C-29-11) 2add		4-50	12.5	-	830	190	-	-	-	-	19**	-	120	[illegible]	[illegible]	-	-		6	
(C-29-11) 4baa		6-62	15.6	7.4	2710	169	-	1753	120	81	356**	-	712	372	[illegible]	-	[illegible]		6	
(C-29-11) 10ddd		6-71	12.5	7.6	1130	165	-	[illegible]	140	28	44	6.8	140	[illegible]	[illegible]	-	[illegible]		6	
(C-29-11) 11aad		4-50	-	-	510	156	-	-	-	-	-	-	-	[illegible]	-	-	-		6	
(C-29-11) 11acc		5-65	16.0	7.6	330	118	-	240	34	[illegible]	[illegible]	-	[illegible]	[illegible]	[illegible]	-	[illegible]		6	
(C-29-11) 11ccd		4-50	13.5	-	485	110	-	-	-	-	-	-	35	[illegible]	[illegible]	-	-		6	
(C-29-11) 11cdd		5-71	14.0	7.7	1400	199	-	[illegible]	[illegible]	[illegible]	[illegible]	6.8	[illegible]	[illegible]	-	-	-		6	
(C-29-11) 11cdd2		8-79	-	7.9	500	-	-	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]	44	[illegible]	-	[illegible]		[illegible]	
(C-29-11) 14cdb1		6-77	18.0	8.0	340	120	[illegible]	[illegible]	38	[illegible]	[illegible]	4.4	[illegible]	[illegible]	[illegible]	-	42		4	
(C-29-11) 15aad		4-50	-	-	2340	268	-	-	-	-			-	[illegible]	-	-	-		6	spring
(C-29-11) 19caa		6-71	16.0	[illegible]	950	215	-	[illegible]	45	28	[illegible]	4.4	[illegible]	[illegible]	[illegible]	-	60		6	
(C-29-11) 27add		5-65	14.5	7.5	840	233	-	544	[illegible]	[illegible]	[illegible]	-	-	[illegible]	-	-	-		6	
(C-29-11) 27 bad2		4-50	-	-	760	132	-	-	-	-	-	-	-	-	-	-	-		6	
(C-29-11) 28add		6-70	12.0	-	[illegible]	-	-	-	-	-	-		[illegible]		-	-	-		6	
(C-29-13) 2bdc		8-63	18.5	[illegible]	[illegible]	256	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]		6	spring
[illegible] 10abb		6-60	13.5	[illegible]	[illegible]	[illegible]	-	[illegible]	[illegible]	26	[illegible]	-	[illegible]	[illegible]	-	-	14		6	

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28 MAY 81 TABLE D-2

SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo.-yr.)	TEMPERATURE °C*	pH*	SPECIFIC CONDUCTANCE (µmhos/cm @ 25°C)*	BICARBONATE (HCO_3)*	CARBONATE (CO_3)*	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-30-10) 19abd		9-61	21.[illegible]	7.7	440	147	-	317	40	8.5	43**	-	54	34	-	-	60		7	
(C-30-12) 21add		8-63	-	8.1	2120	384	-	1500	83	9.7	360	49	480	210	14	-	110		6	spring
(C-30-1[illegible]) 28acb		7-67	76.5	7.4	2100	374	-	1490	76	12	360	47	460	210	14	-	10		7	
(C-30-13) 22ccc		6-62	15.0	7.6	890	167	-	521	89	23	54**	-	107	130	0.6	-	34		7	
(C-31-10) 8bda		9-63	17.5	7.7	640	244	-	430	73	14	35	16	24	74	0.5	-	50		6	spring
(C-31-12) 17dcb		3-50	13.5	-	1460	138	-	-	-	-	-	-	-	250	-	-	-		6	
(C-33-10) 29adc		6-62	14.4	7.5	890	166	-	523	63	21	73**	-	70	74	0.3	-	31		7	
(C-33-12) 11aaa		6-62	13.9	7.5	1090	210	-	746	108	33	98**	-	291	83	0.7	-	38		7	
(C-33-13) 3caa		6-62	13.9	7.5	1640	195	-	1120	184	[illegible]	47**	-	44[illegible]	230	[illegible]	-	40		7	
(C-33-13) 20bad		12-80	14	8.6	970														8	well, stock
(C-33-17) 26dad		12-80	15	8.3	820														8	well, domestic
(C-33-18) 14ad		12-80	14	8.7	580														8	spring
(C-34-13) 16ccc		9-62	17.8	7.8	790	199		541*	[illegible]	22	32**		[illegible]	[illegible]	[illegible]		30		6	
(C-34-13) 23abd		12-80	14	8.7	830														8	
(C-34-15) 1ada-3		12-80	11	9.1	650														8	
(C-34-16) 28dcc-2		6-75	12.[illegible]	7.5	[illegible]	165	0	604*	12[illegible]	24	34	4.8	48	14[illegible]	-	1.6	60		5	
(C-34-16) 28dcc-2		6-79	12.5	7.7	[illegible]	-	-	640*	[illegible]	[illegible]	35	4.7	4[illegible]	[illegible]	0.6	2.[illegible]	60		2	
(C-34-16) 28dcc-2		4-79	12.5	7.6	[illegible]	-	-	63[illegible]*	[illegible]	24	36	4.6	47	14[illegible]	[illegible]	1.9	65		2	
(C-34-17) 5ccb-1		12-80	[illegible]	8.4	[illegible]														8	well
(C-35-14) 4bda		12-80	14	8.6	[illegible]														8	Antelope spring
[illegible]		[illegible]-62	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]*			[illegible]	[illegible]	74	4[illegible]	[illegible]		[illegible]		6	
[illegible]		[illegible]-62	[illegible]	[illegible]	[illegible]	14[illegible]		2[illegible]*		[illegible]	14[illegible]	4.4	[illegible]	4[illegible]	[illegible]		[illegible]		6	

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SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo. - yr.)	TEMPERATURE °C *	pH *	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C) *	BICARBONATE (HCO_3) *	CARBONATE (CO_3) *	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-35-16) 9add-1		5-62	12.8	7.3	450	196		298*	65	7.3	16	3.9	23	32	0.2		52		7	irrigation
(C-36-16) 9add-1		6-75	13.0	7.4	700	198	0	426*	91	18	19	6.2	36	99	-	2.7	47		5	irrigation
(C-35-16) 9add-1		6-77	13.0	7.4	700	210	0	464*	100	19	20	6.2	43	110	0.2	3.1	48		4	irrigation
(C-35-16) 21dcc-1		7-75	14.0	7.7	420	182	0	268*	51	9.2	16	4.9	14	30	-	[illegible]	49		5	
(C-35-16) 21dcc-1		6-77	13.0	7.5	420	190	0	300*	63	11	17	4.8	19	36	0.3	1.5	48		4	
(C-35-16) 32dcd-1		5-75	19.0	-	345	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-35-16) 32dcd-1		9-79	16.0	7.3	710	-	-	430*	94	16	22	5.9	37	75	0.3	2.4	50		2	
(C-36-12) 3acc-1		10-77	18.0	8.1	560	-	-	-	-	-	-	-	-	-	-	0.27	-		4	
(C-36-12) 12dba-1		1-75	13.5	-	590	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-36-12) 12dba-1		7-78	13.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-		3	
(C-36-12) 21cbb-1		6-75	13.0	-	380	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-36-12) 21cbb-1		6-78	14.0	8.0	340	-	-	-	-	-	-	-	-	-	-	-	-		3	
(C-36-12) 21cbb-1		7-79	14.5	8.0	350	-	-	240*	41	13	11	3.2	42	9.6	0.2	0.48	44		2	
(C-36-12) 32dcc		6-75	13.0	-	270	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-36-15) 7cdd-1		5-75	20.0	7.3	2550	132	0	1920*	190	34	330	21	820	260	-	6.2	64		5	
(C-36-15) 7dcc-1		5-59	18.3	7.5	1740	96		1280*	71	10	320**		620	120	-		81		7	irrigation
(C-36-15) 7dba		7-59	30.6	7.7	1580	91		1040*	53	3.4	270**		490	93	-		76		7	irrigation
(C-36-16) 9bdc-1		7-78	12.0	-	590	-	-	-	-	-	-	-	-	-	-	-	-		3	
(C-36-15) 9dbc		4-59	12.8	8.5	1190	170		698*	140	28	34**		130	120	-		34		7	stock
(C-36-16) 5a		5-62	13.9	7.5	1120	250		729*	200	14	26	7.0	92	210	0.3		40		7	irrigation
(C-36-16) 5a-9		5-75	13.0	7.3	1600	332	0	952*	220	43	29	7.8	130	280	-	9.1	38		5	
(C-36-16) 6c		5-53	14.4	8.2	485	188		281*	53	[illegible]	22**		12	31	-		60		7	irrigation
(C-36-16) 9bcd-1		5-75	12.0	-	590	-	-	-	-	-	-	-	-	-	-	-	-		-	
(C-36-16) 9bda-1		6-77	13.0	-	560	-	-	-	-	-	-	-	-	-	-	-	-		4	
(C-36-16) 9bdc-1		8-79	13.0	7.4	670	-	-	410*	90	17	22	5.5	31	53	0.3	2.0	38		[illegible]	
(C-36-16) 19aab-1		5-75	10.5	-	415	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-36-16) 19abb-1		7-78	11.0	-	450	-	-	-	-	-	-	-	-	-	-	-	-		3	
(C-36-16) 21cbb-1		6-77	16.0	-	340	-	-	-	-	-	-	-	-	-	-	-	-		4	
(C-35-16) 27cdc-1		7-78	17.0	-	590	-	-	-	-	-	-	-	-	-	-	-	-		3	
(C-36-16) 27cdc-1		8-79	16.5	-	590	-	-	410*	-	-	-	-	-	-	-	-	-		[illegible]	
(C-36-16) 27dcc-1		5-75	16.0	-	585	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-36-16) 27dcc-1		6-77	17.0	-	580	-	-	-	-	-	-	-	-	-	-	-	-		4	

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SAMPLE LOCATION	OWNER OR WATER USER	DATE OF COLLECTION (mo - yr)	TEMPERATURE °C*	pH*	SPECIFIC CONDUCTANCE (µmhos/cm @ 25 °C)*	BICARBONATE (HCO_3)*	CARBONATE (CO_3)*	DISSOLVED SOLIDS (see note)	CALCIUM (Ca)	MAGNESIUM (Mg)	SODIUM (Na)	POTASSIUM (K)	SULFATE (SO_4)	CHLORIDE (Cl)	FLUORIDE (F)	NITRATE (as N)	SILICA (SiO_2)	TRITIUM (pCi/liter)	REFERENCES	REMARKS
(C-36-16) 29daa1		5-75	13.5	-	460	-	-	-	-	-	-		-	-	-	-	-		5	
(C-36-16) 31ccc		9-61	10.6	7.5	475	242	-	314*	65	10	28**		25	24	-		35		3	irrigation
(C-36-17) 2d		5-59	17.8	7.5	1110	238		701	150	27	28**	-	71	190	-		100		3	mine shaft
(C-36-17) 242		10-61	17.2	7.5	380	168		257*	49	4.6	26**		16	29	-		46		3	
(C-36-17) 36aad1		5-75	10.0	7.5	440	193	0	285*	51	9.9	23	4.4	19	22	4.8	39			5	
(C-36-17) 36aad1		6-77	11.0	7.7	440	200	0	274*	55	11	23	4.7	21	22	0.3	-	38		4	
(C-36-17) 36aad1		7-78	11.5	7.3	470	-	-	310*	59	10	24	4.8	23	18	0.2	3.9	47		3	
(C-36-17) 36aad1		8-79	10.0	7.3	490	-	-	310*	58	11	24	5.0	22	20	0.3	5.8	43		2	
(C-37-12) 4bbc-1		10-77	16.0	7.9	270	-	-	-	-	-	-	-	-	-	-	0.96	-		4	
(C-37-12) 23acb1		6-75	14.5	-	640	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-37-12) 23acb1		6-77	14.0	-	700	-	-	-	-	-	-	-	-	-	-	-	-		4	
(C-37-12) 23acb1		6-78	13.5	-	780	-	-	-	-	-	-	-	-	-	-	0.96	-		3	
(C-37-12) 23acb1		7-79	14.5	7.7	780	-	-	480*	73	34	37	1.8	200	41	0.1	0.97	17		2	
(C-37-12) 34abb1		7-75	11.0	-	980	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-37-12) 34abb1		6-77	12.0	-	810	-	-	-		-	-	-	-	-	-	-	-		4	
(C-37-12) 34abb1		7-78	11.5	-	940	-	-	-	-	-	-	-	-	-	-	-	-		3	
(C-37-12) 34abb-1		8-79	12.0	7.0	910	-	-	570	120	40	17	2.1	150	10	0.2	2.4	18		2	
(C-37-16) 4bdd-1		8-79	21.0	-	370	-	-	230*	-	-	-	-	-	-	-		-		2	
(C-37-17) 12bdc-1		8-60	12.8	7.6	-	278	-	393*	75	13	29	4.3	24	29	0.1		59		7	irrigation
(C-37-17) 12bdc-1		8-79	12.0	7.3	470	-	-	310*	59	10	24	4.8	23	18	0.2	3.9	47		2	
(C-37-17) 12dbc-1		5-75	12.0	7.2	675	300	0	432	85	15	33	5.3	30	32	-	8.8	44		5	
(C-37-17) 14bac-1		8-60	12.8	7.8		292		390*	69	14	33	5.7	23	30	0.2		65		7	
(C-37-17) 14bac-1		6-75	15.0		580	-	-	-	-	-	-	-	-	-	-	-	-		5	
(C-37-17) 14bac-1		6-77	16.0		580														4	

* Sum of constituents
** Na + K

References:
1. U.S. Geological Survey, 1980
2. U.S. Geological Survey, 1979a
3. U.S. Geological Survey, 1979b
4. U.S. Geological Survey, 1978
5. U.S. Geological Survey, 1976
6. Mower and Cordova, 1974
7. Sandberg, 1966
8. Ertec Western, 1980

All measurements in mg/l unless otherwise noted

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APPENDIX E

DRILLING AND TESTING ACTIVITIES

SUMMARY OF DRILLING AND TESTING ACTIVITIES

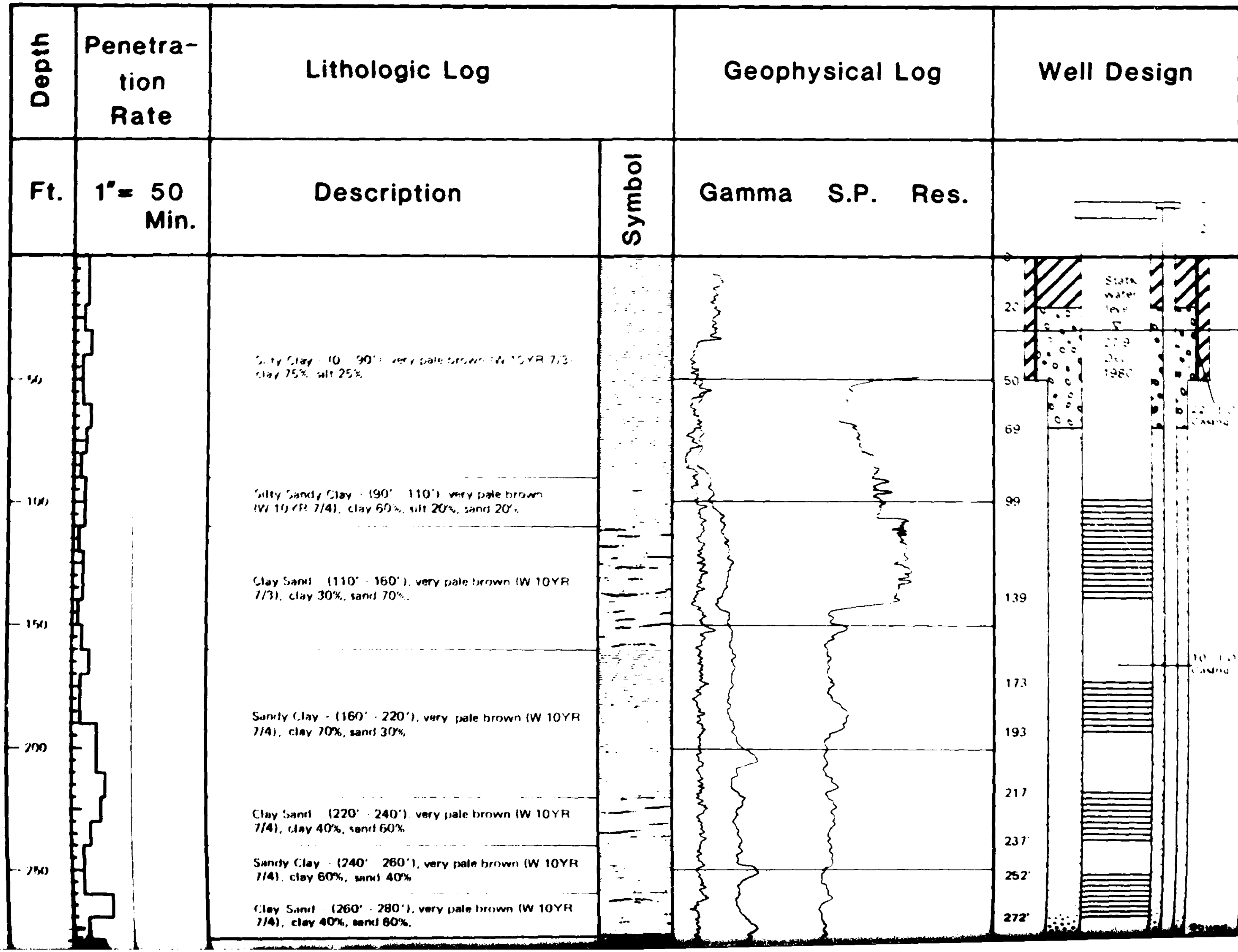
To ascertain the aquifer characteristics at both of the proposed Operational Base locations in the Escalante Valley, exploratory drilling and testing was conducted by Ertec in November and December of 1980 and January 1981. Field activities were conducted at valley-fill test sites in the Milford district (C-31-13)5bb and the Beryl district (C-33-17)21dd.

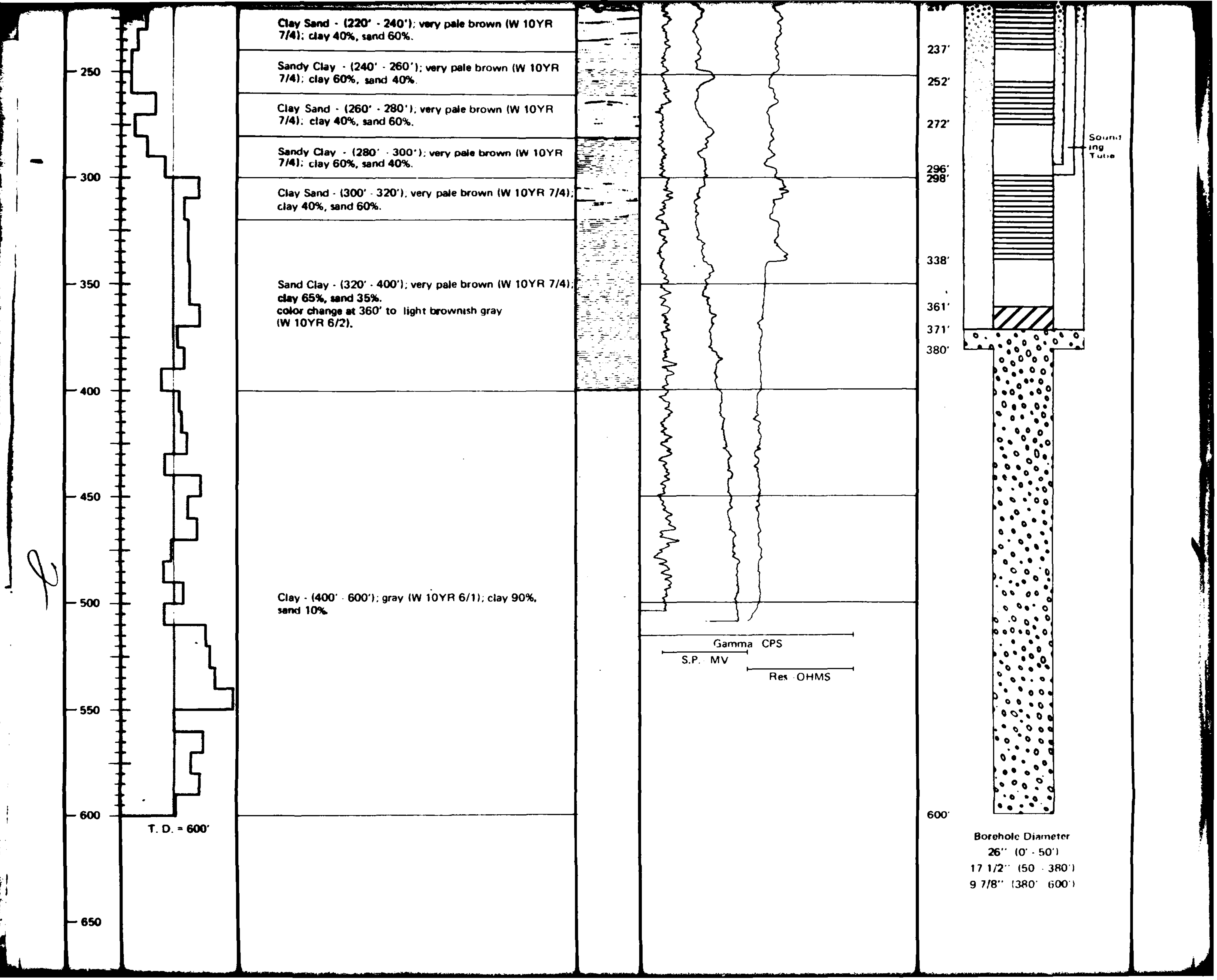
Milford OB Exploratory Drilling

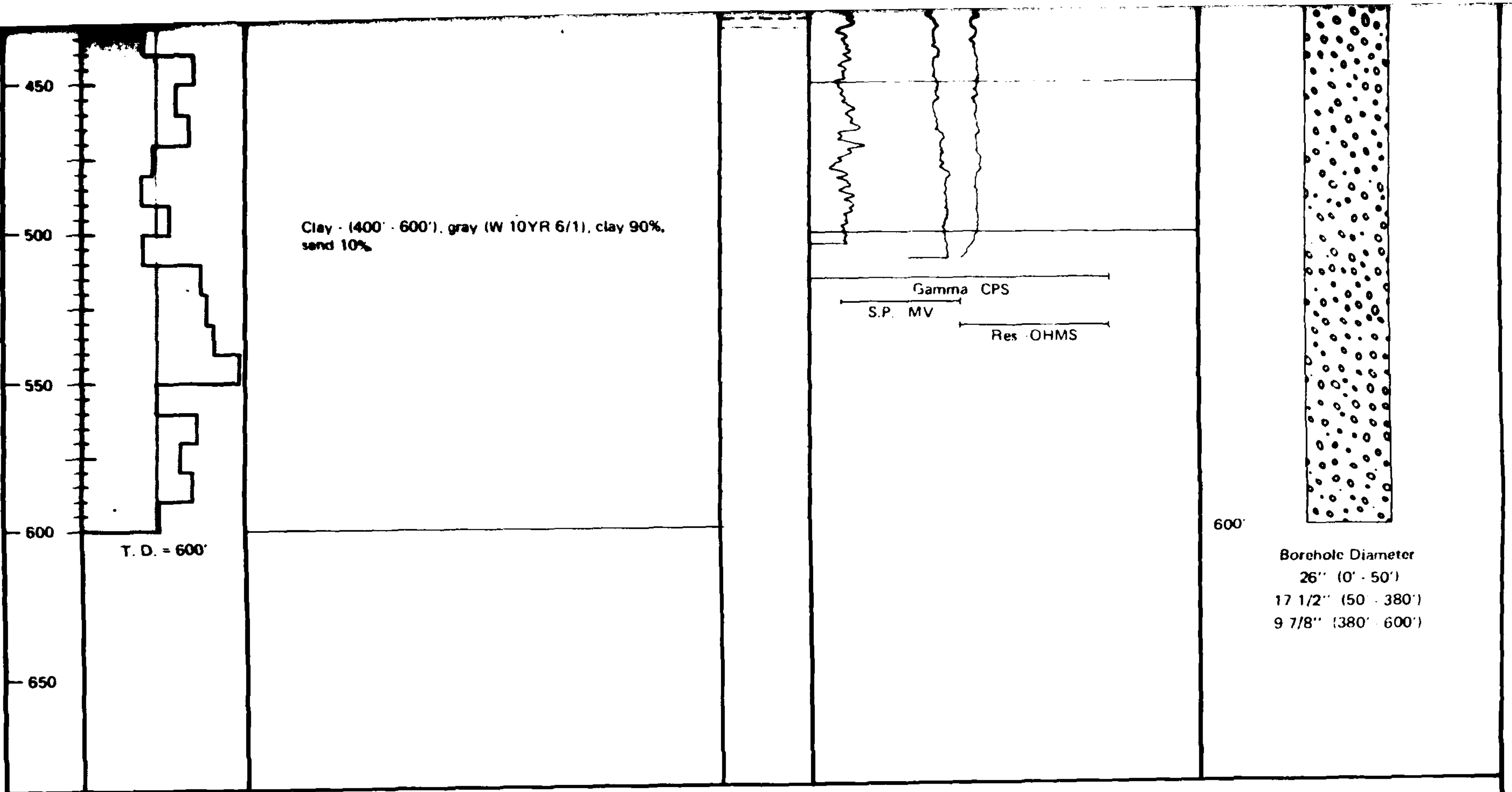
Exploratory drilling began at the Milford OB site (C-31-13) 5bb1 in mid-November 1980. Prior to drilling, field reconnaissance of the area indicated that the minimum depth to water at this location would be between 65 to 80 feet (20 to 24 m). A pilot bore hole for the test/production w ll was drilled to a depth of 600 feet (182 m). The well was geophysically logged and the logs were correlated with the well cuttings. Due to an increasing amount of fines (clays and silts) with depth, the well was completed to a depth of only 340 feet (104 m). Figure E-1 shows a summary of lithologic units penetrated and construction details of the completed test well.

The observation well at the Milford OB site (C-31-13)5bb2 was installed to 342 feet (104 m). This well is approximately 500 feet (152 m) northeast of the test well and constructed as a multi-piezometer so that two aquifer intervals could be monitored (Figure E-2).

MILFORD O B SITE TEST WELL (C-31-13) 5bb1




250
300
350
400
450
500
550
600
650
T. D. = 600'
Clay Sand - (220' - 240'); very pale brown (W 10YR 7/4); clay 40%, sand 60%.
Sandy Clay - (240' - 260'); very pale brown (W 10YR 7/4); clay 60%, sand 40%.
Clay Sand - (260' - 280'); very pale brown (W 10YR 7/4); clay 40%, sand 60%.
Sandy Clay - (280' - 300'); very pale brown (W 10YR 7/4); clay 60%, sand 40%.
Clay Sand - (300' - 320'); very pale brown (W 10YR 7/4); clay 40%, sand 60%.
Sand Clay - (320' - 400'); very pale brown (W 10YR 7/4); clay 65%, sand 35%. color change at 360' to light brownish gray (W 10YR 6/2).
Clay - (400' - 600'); gray (W 10YR 6/1); clay 90%, sand 10%.
Gamma CPS
S.P. MV
Res OHMS
237'
252'
272'
296'
298'
338'
361'
371'
380'
600'
Sounding Tube
Borehole Diameter
26" (0' - 50')
17 1/2" (50 - 380')
9 7/8" (380' - 600')



LITHOLOGIC SYMBOLS

Clay
Clay Silt
Silt
Silt And Clay
(May also include modifiers of, with some gravel, and with very little gravel).

Sandy Clay
Silty Clay
Sandy Silty Clay
Sandy Silt
Sandy Clay Silt
(May also include modifiers of, with some gravel, and with very little gravel).

Clay Sand
Silty Clay Sand
(May also include modifiers of, with some gravel, and with very little gravel).

WELL DESIGN

Cement

8 - 12 Sand

Pea Gravel

Screen
Johnson Hi-Cap
060 inch slot size

NOTE:

The absence of gravel in materials penetrated as found in the observation well (C-31-13)5bb2 may be the result of differences in drill bits used in the two wells.

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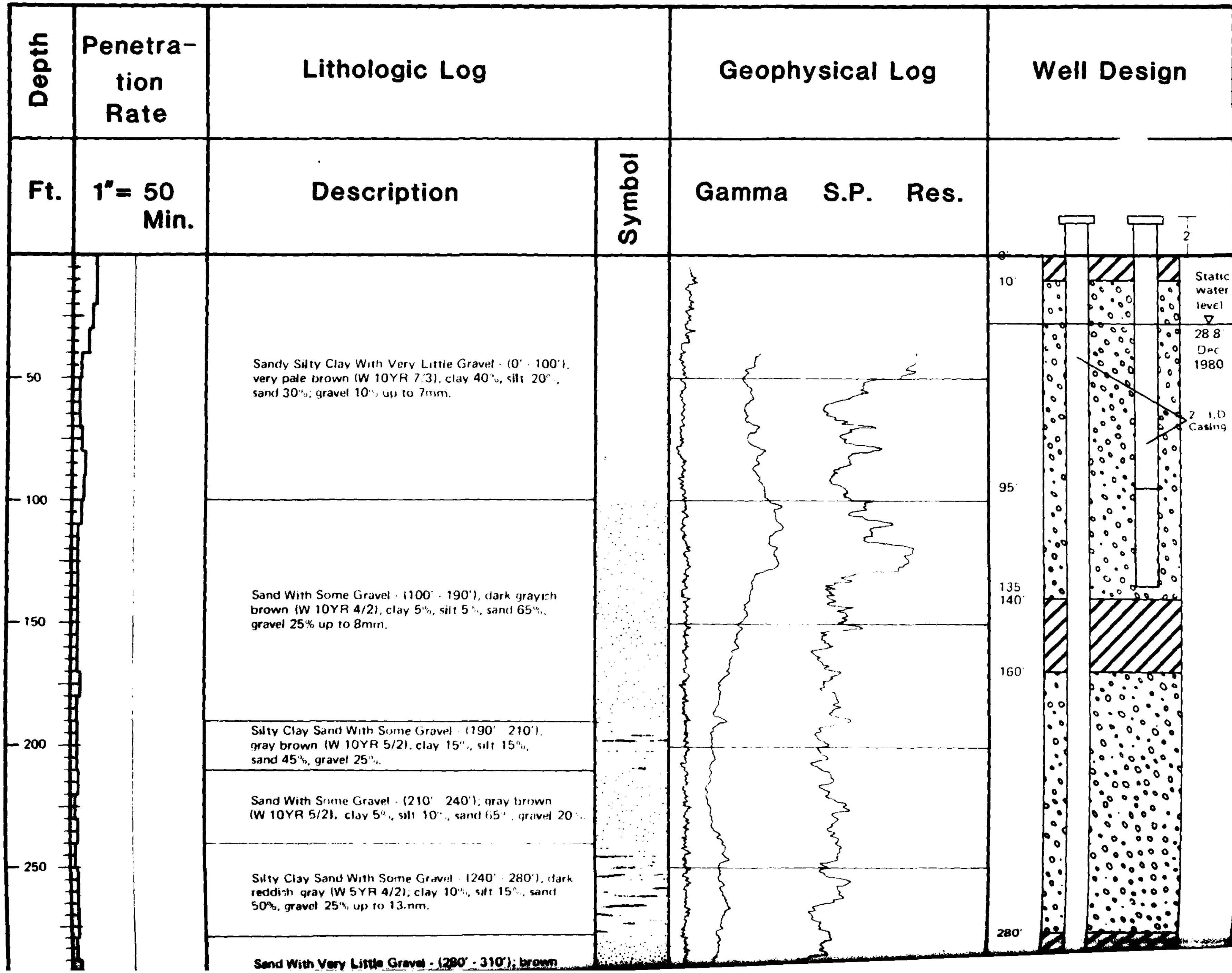
LITHOLOGIC LOG AND WELL
COMPLETION SUMMARY
MILFORD TEST WELL

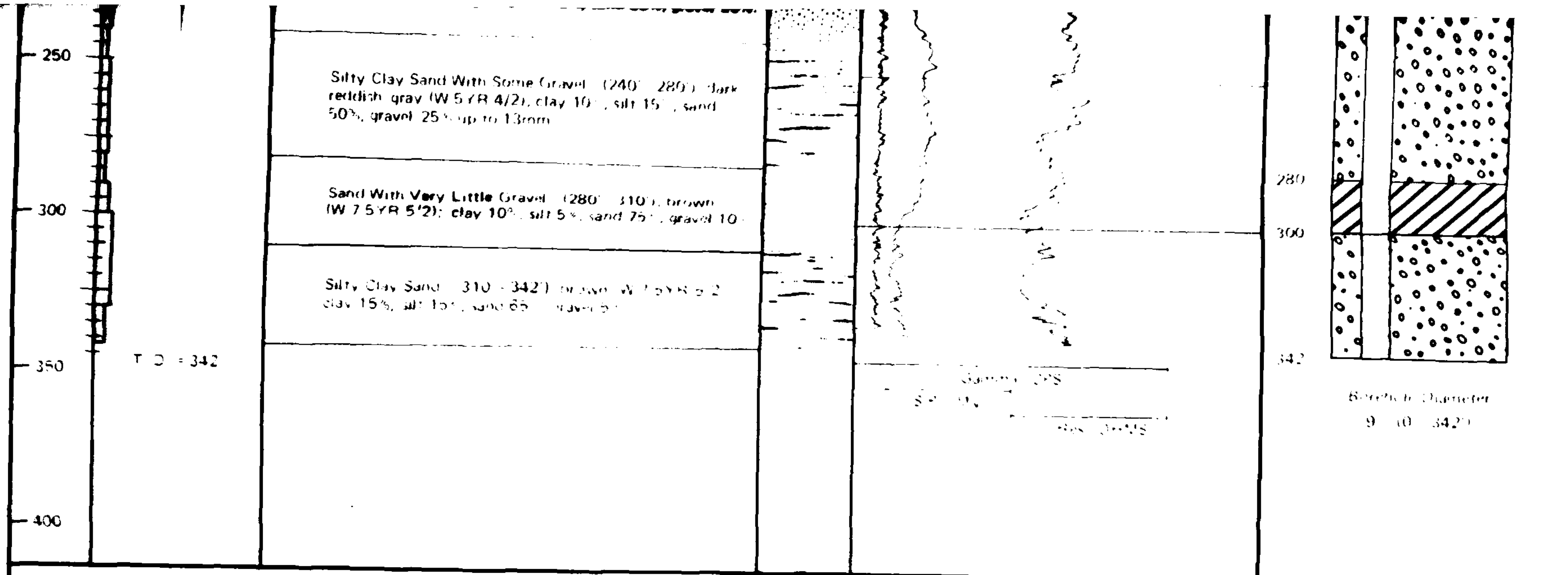
28 MAY 81

FIGURE E-1

2 1 3

MILFORD O B SITE OBSERVATION WELL (C-31-13) 5bb2





LITHOLOGIC SYMBOLS

Sand
Silty Sand
(May also include modifier of: with some gravel and with very little gravel)

WELL DESIGN

Cement

Pea Gravel

Slotted Pipe

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LITHOLOGIC LOG AND WELL COMPLETION SUMMARY–MILFORD OBSERVATION WELL

28 MAY 81

FIGURE E-2

Milford OB Aquifer Testing

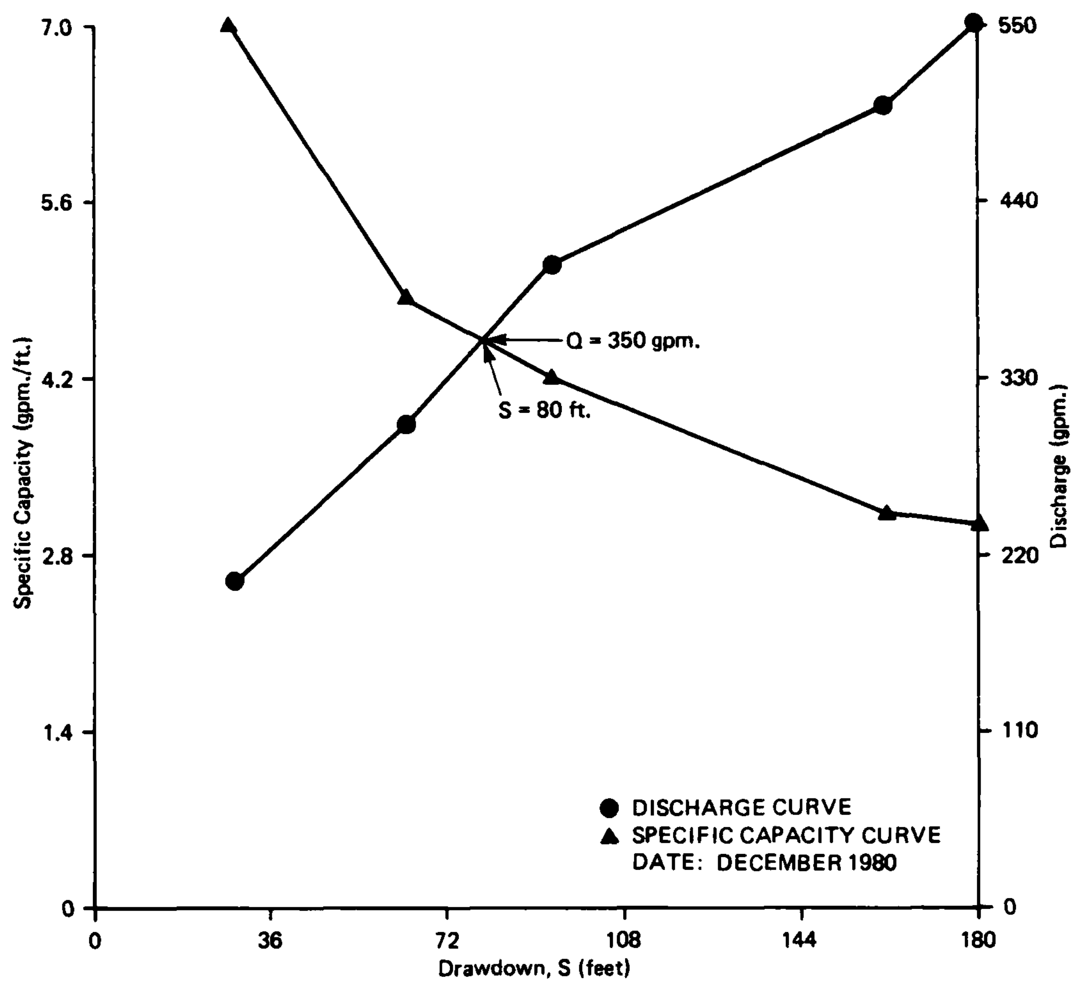
An aquifer test was conducted in December 1980 at the Milford site to determine the hydraulic characteristics of the valley-fill material at this location. The test consisted of two pumping stages, 1) a step-drawdown test to determine the optimum pumping rate of the aquifer, and 2) a constant discharge test over a period of 10 days to provide data for analysis of the aquifer characteristics and to monitor the effects of the test on water levels in nearby wells (within a 3-mile [4.8-km] radius).

The step-drawdown test consisted of five discharge rates measured by an in-line water meter with a totalizer. The following data were obtained:

Discharge (gpm)	Maximum Drawdown (ft)	Specific Capacity (gpm/ft dd)
205	29.5	7.0
300	62.8	4.8
400	94.0	4.3
500	160.0	3.1
550	180.0	3.1

A plot of discharge versus drawdown and specific capacity versus drawdown is presented in Figure E-3.

The constant discharge aquifer test began after complete recovery of the aquifer from the step drawdown test and continued 240 hours at a rate of 350 ± 10 gpm (22 ± 1 l/s). Static water level in the test well was 29.36 feet (8.95 m) and in the observation well 28.80 feet (8.78 m) below ground surface. Maximum drawdown in the test well was 90.30 feet (27.52 m) and



S – Drawdown in feet
Q – Discharge in gallons per minute

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SPECIFIC CAPACITY AND YIELD
MILFORD VALLEY–FILL
AQUIFER TEST

28 MAY 81

FIGURE E-3

in the observation well 4.93 feet (1.50 m). Recovery began and the original static water levels were reached within two days. Monitoring was continued for an additional 60 hours.

Water levels were monitored in five nearby wells during the test. No significant drawdown resulting from pumping the test well was observed in any of the wells as shown in Table E-1.

Aquifer hydraulic coefficients were calculated through an analysis of drawdown and recovery data in both test and observation wells. The transmissivity was calculated to be approximately 5400 ft^2/d (502 m^2/d). The storage coefficient was found to be 0.0004. The small storage coefficient does not necessarily indicate a confined aquifer. This analysis and the well log indicate the likelihood of a local semiconfined aquifer, and the small storage coefficient represents only the initial or early stage test results.

The location of the well near the base of an alluvial fan and near lake sediments of Tertiary age may provide some indication of whether or not the well is situated in a semiconfined or water table condition. The semiconfined data represent areas near the center of the valley where the concentrations of clays are greater and at relatively shallow depths. The water table conditions are more representative of the alluvial fan deposits along the valley margins where grain size increases. Mower and Cordova (1974) estimate the values for the storage coefficient throughout the valley to be approximately 0.2 representing water table conditions. The figures obtained by Ertec from aquifer

LOCATION:	(C-30-13) 33abb	(C-30-13) 34bba	(C-31-13) 6dab	(C-31-13) 18aad	(C-31-13) 4cbb
DISTANCE FROM SITE:	2 miles	2.5 miles	.75 miles	2.75 miles	1.1 miles
MEASURING POINT:	0.4' ABOVE GROUND SURFACE	GROUND SURFACE	0.6' ABOVE GROUND SURFACE	GROUND SURFACE	0.7' ABOVE GROUND SURFACE
DATE	WATER LEVEL BELOW MEASURING POINT (FEET)				
12/09/80	53.72 *	46.56	55.60 *	72.00 *	29.60 *
12/10/80	50.67	46.45	52.20	62.60	28.64
12/11/80	51.49 *	46.51	52.22	62.59	28.63
12/12/80	50.64 *	46.52	52.26	63.42 *	28.77 *
12/12/80 (6 hrs. later)	50.56	—	—	—	—
12/13/80	50.50 *	46.51	52.74 *	—	29.09 *
12/14/80	—	46.51	—	—	—
12/15/80	—	46.50	—	—	—
12/17/80	50.57	46.54	52.40	62.67	—
12/17/80 (6 hrs. later)	51.84 *	46.50	52.42	63.00	28.70
12/18/80	52.17 *	46.56	54.52 *	62.61	29.39 *
12/19/80	50.54	46.53	52.30	62.70	28.66
12/20/80	50.50	46.58	52.51	62.70	28.70

* Pumping at time of measurement (Windmill)

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SELECTED WELLS WITHIN 3 MILES OF MILFORD TEST WELL SITE MONITORED DURING AQUIFER TEST

28 MAY 81 TABLE E-1

testing are less than this because they represent only the very early results of removing ground water from storage in the area. Mower and Cordova (1974) also indicate that the figure for storage is representative of a one- to 20-year period of pumping.

Transmissivity	5400 ft^2/day
Storativity	0.0004
Leakance	0.0015 ft^2/day

Water Quality

Water samples were collected three times daily from the discharge of the test well for field analyses of temperature, pH, Eh, specific conductivity, and alkalinity. All parameters remained relatively constant throughout the pumping period. Samples were also collected on the first, fifth, and tenth days of the constant discharge test from the test well for laboratory analyses. The following is a summary of the field water-quality samples:

EC	865 - 920 μmhos/cm
pH	6.7 - 6.9
Eh	116 -120 mv
Temperature	13- 14°C
Alkalinity	154 - 160 mg/l

The results of laboratory testing for water quality of the samples obtained through testing are listed in Appendix D, Table D-1.

Beryl OB Exploratory Drilling

Exploratory drilling began at the Beryl OB site (C-33-17)21dd1 in early December 1980. A pilot bore hole was drilled to a depth of 504 feet (154 m). Due to an increasing amount of fines

deeper than 330 feet (101 m) (clays and silts) the well was completed as a multi-piezometer to a depth of 330 feet (101 m). Figure E-4 shows a summary of lithologic units penetrated and construction details of the completed observation well.

The test well (C-33-17)21dd2 was installed to 350 feet (107 m) and is approximately 500 feet (152 m) south of the observation well. The lithology, geophysical logs, construction details, and other information for the test well are shown in Figure E-5.

Beryl OB Aquifer Testing

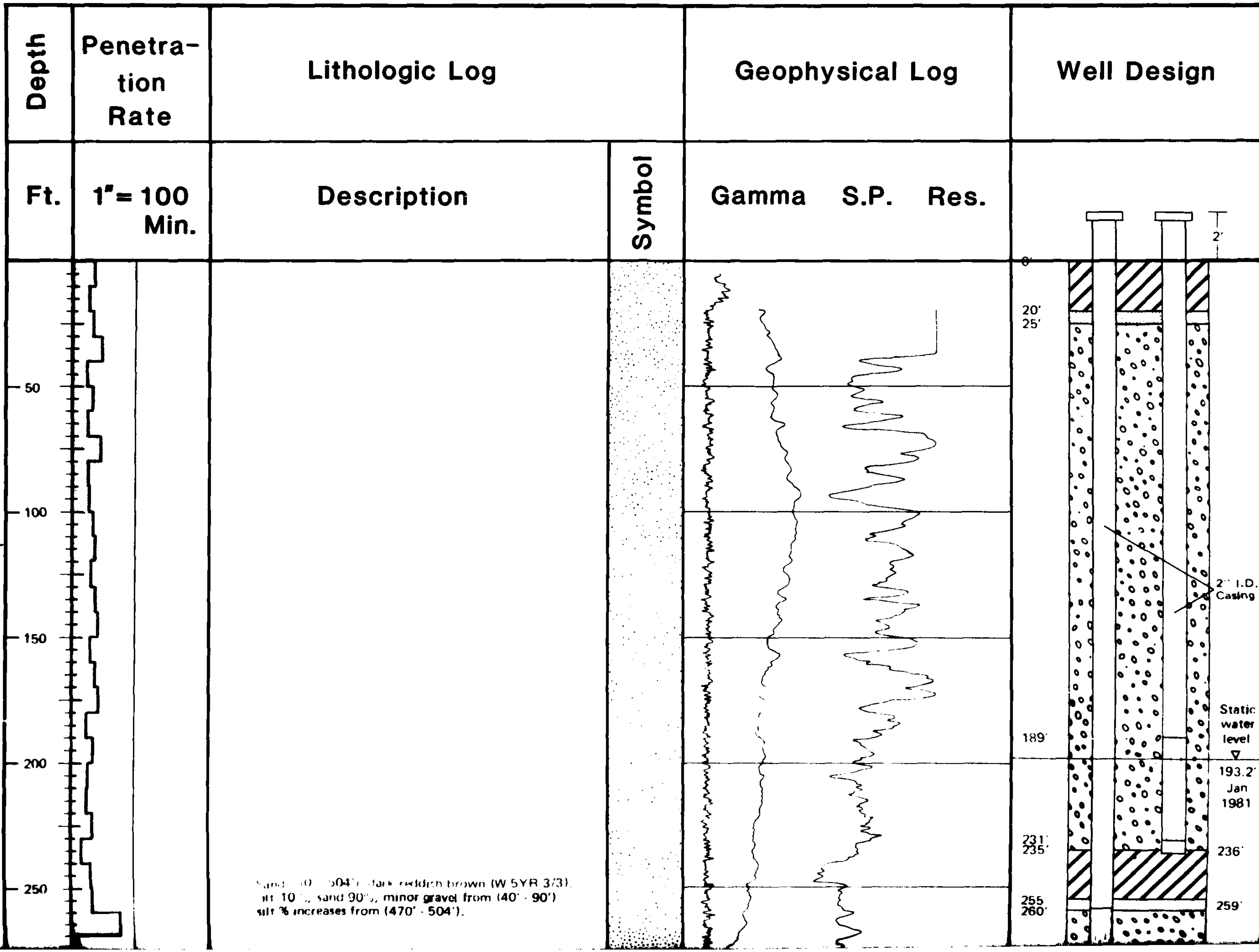
An aquifer test was conducted in January 1981 at the Beryl OB site. The test consisted of two pumping stages; 1) a step-drawdown test to determine the optimum withdrawal rate of the aquifer; and 2) a constant discharge test over a period of 10 days to provide data for analysis of the aquifer hydraulic characteristics and for the monitoring of the effects of the test on water levels in nearby wells.

The step-drawdown test consisted of four discharge rates measured by an in-line water meter with a totalizer. The following results were obtained:

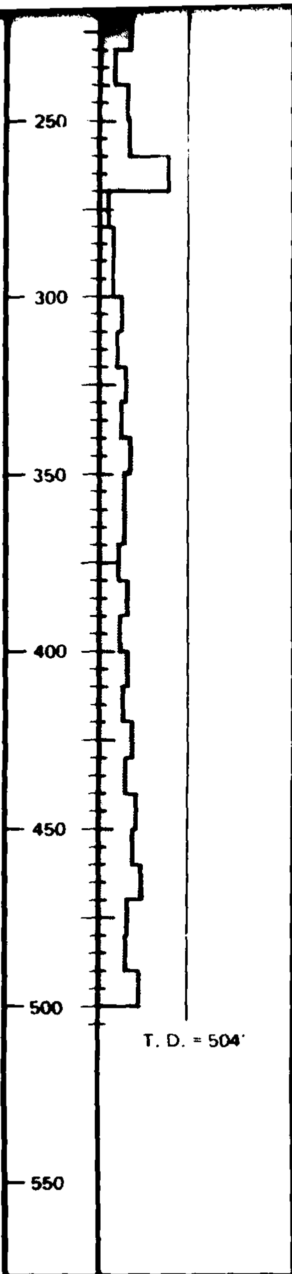
Discharge (GPM)	Maximum Drawdown (ft)	Specific Capacity (GPM/ft)
250	3.34	74.8
450	6.64	67.7
675	13.77	49.0
775	20.72	37.4

Plots of discharge versus drawdown and specific capacity versus drawdown are presented in Figure E-6.

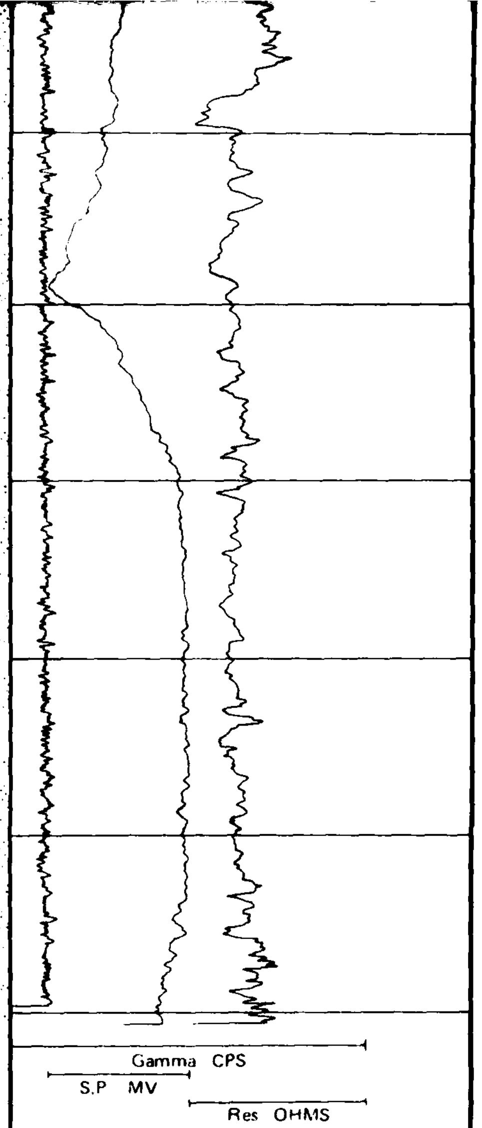
BERYL O B SITE OBSERVATION WELL (C-33-17) 21dd1

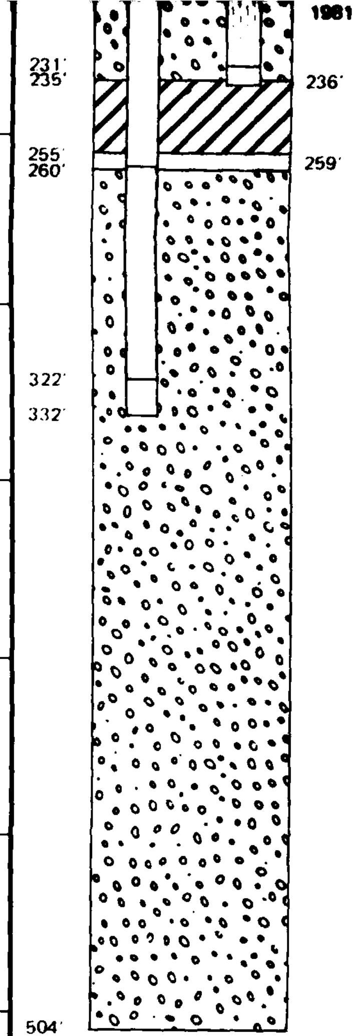


1981



Sand (0' - 504') dark reddish brown (W 5YR 3/3), silt 10%, sand 90%, minor gravel from (40' - 90') silt % increases from (470' - 504').





Borehole Diameter
8 3/4" (0' - 504')

LITHOLOGIC SYMBOLS

Sand
Silty Sand
(May also include modifiers of with some gravel and with very little gravel).

WELL DESIGN

Cement

Fine Sand

Pea Gravel

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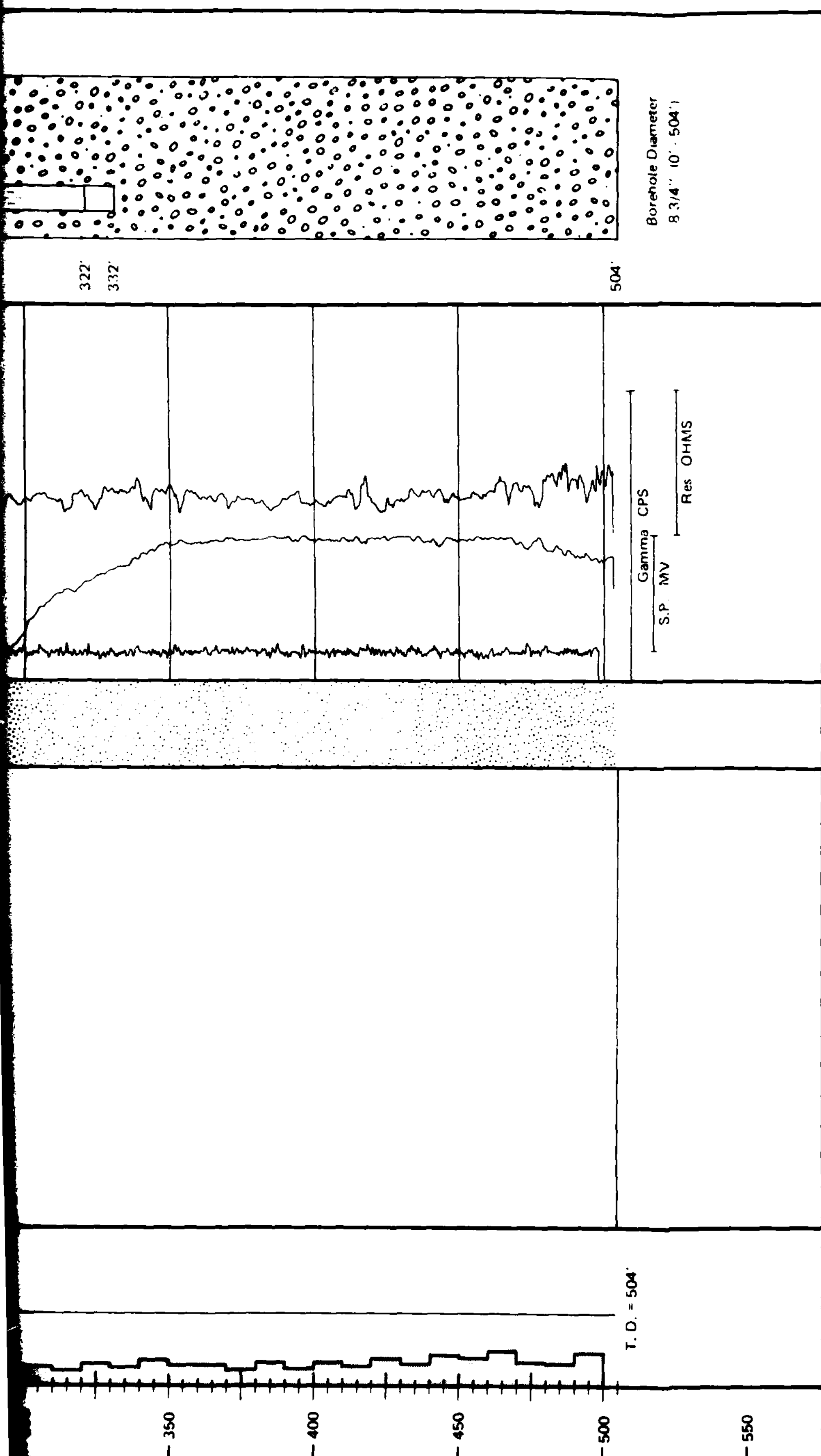
MX SIT
DEPARTM

LITHOLOGIC LOG
COMPLETION SUMM
OBSERVATIO

28 MAY 81



WELL DESIGN

Cement

Fine Sand

Pea Gravel

Slotted Pipe

LITHOLOGIC SYMBOLS

Sand
Silty Sand
(May also include modifier of: with some gravel and with very little gravel).

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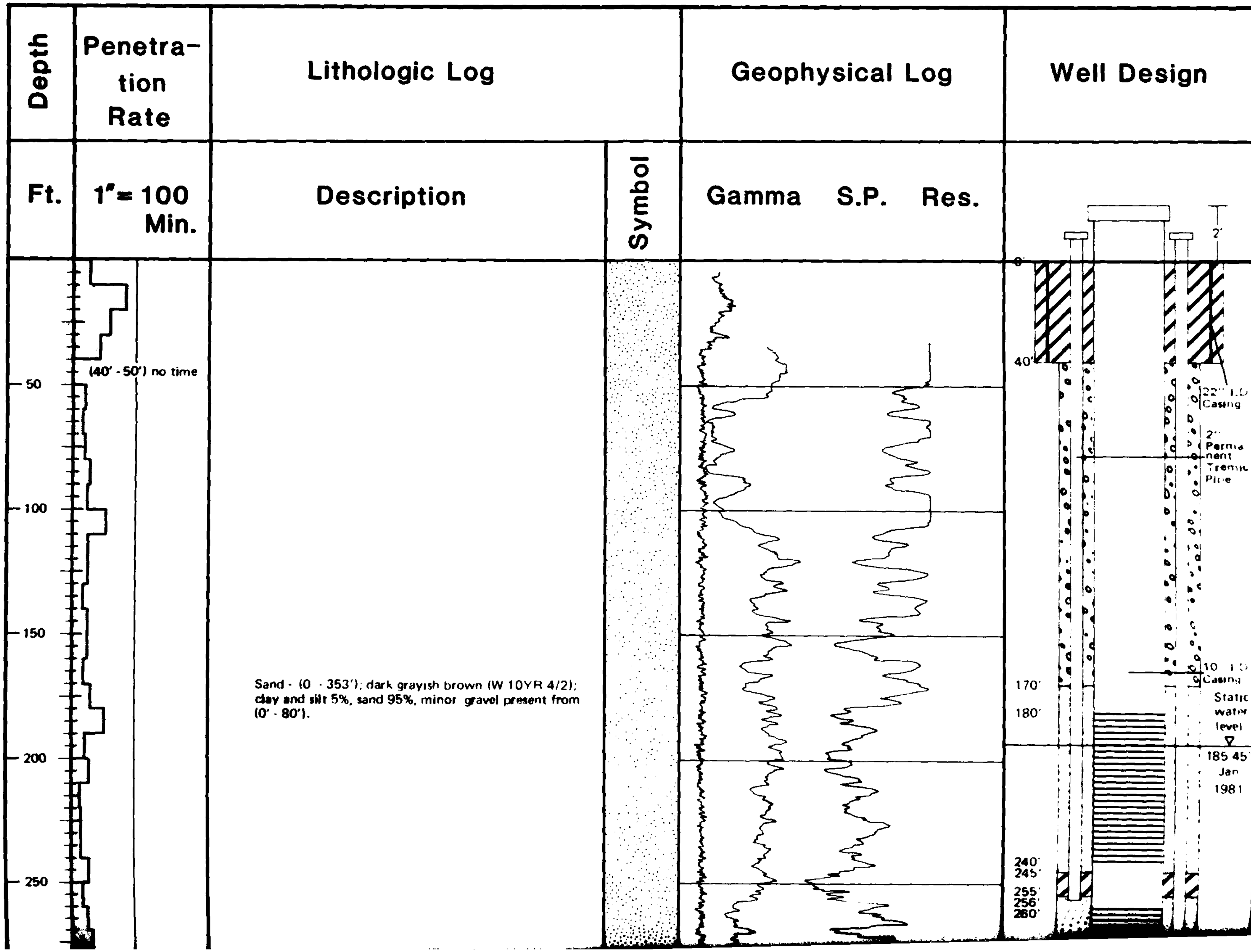
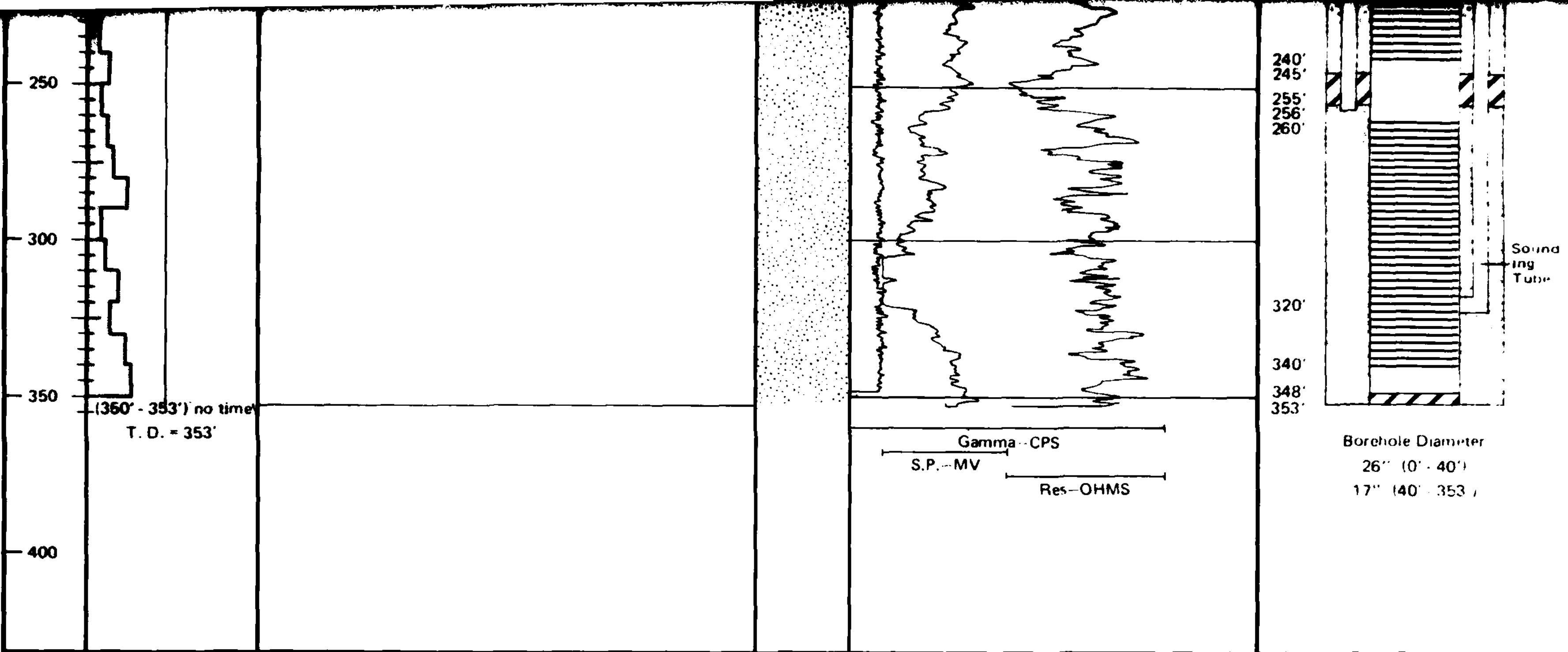
LITHOLOGIC LOG AND WELL COMPLETION SUMMARY – BERYL OBSERVATION WELL

28 MAY 81

FIGURE E-4

BERYL O B SITE TEST WELL (C-33-17) 21dd2





LITHOLOGIC SYMBOLS

Sand
Silty Sand
(May also include modifiers of, with some gravel and with very little gravel).

WELL DESIGN

Cement

8 - 12 Sand

Pea Gravel

Screen
Johnson Hi-Cap
.060 inch slot size

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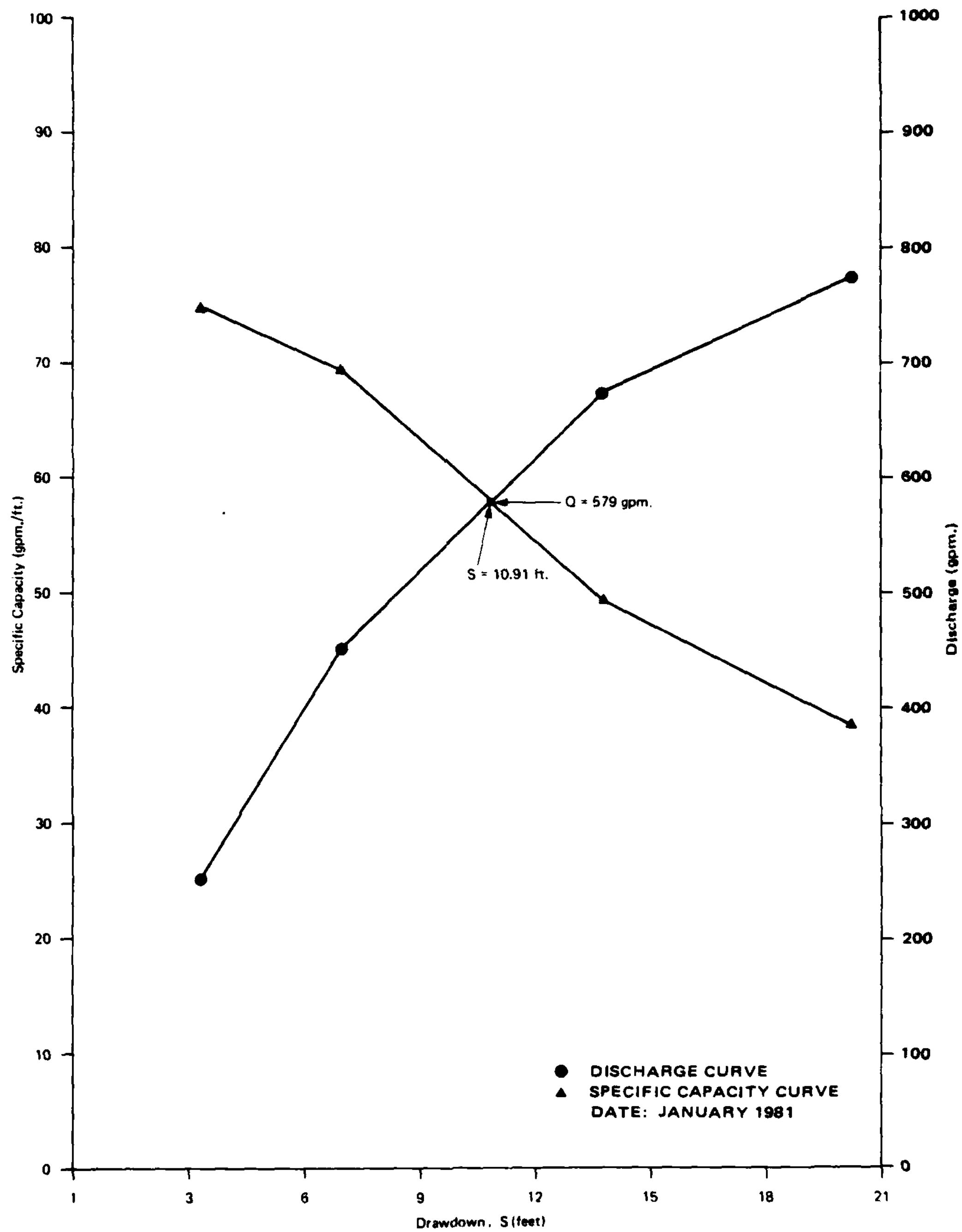
LITHOLOGIC LOG AND WELL COMPLETION SUMMARY BERYL TEST WELL

28 MAY 81

FIGURE E-5



S – Drawdown in feet

Q – Discharge in gallons per minute

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SPECIFIC CAPACITY AND YIELD
BERYL VALLEY–FILL
AQUIFER TEST

28 MAY 81

FIGURE E-6

A constant discharge test began after complete recovery of the aquifer from the step-drawdown test and continued for 240 hours at a rate of 600 ± 10 gpm (38 ± 1 l/s). Static water level in the test well was 185.45 feet (56.53 m) and in the observation well 193.2 feet (58.90 m) below ground surface. Maximum drawdown in the test well was 14.07 feet (4.29 m) and in the observation well 0.25 feet (0.08 m). Recovery began and the original static water levels were reached within two days. Monitoring was continued for an additional 48 hours.

One well located approximately 2 miles (3 km) from the site was measured daily to determine if any drawdown was occurring because of the test. No effect was observed as shown in Table E-2.

Aquifer coefficients were calculated through an analysis of drawdown and recovery data in both the test and observation wells. Transmissivity was calculated to be approximately 8600 ft^2/d (799 m^2/d) and the storage coefficient was 0.05. As indicated in the Milford test, the calculated storage coefficient represents only the initial or early stage test results.

Water Quality

Water samples were collected from the test well three times daily for field analysis of temperature, pH, specific conductivity, and alkalinity. All parameters measured remained relatively constant throughout the test. Samples were also collected from the test well on the first, fifth, and tenth days of

LOCATION: (C-33-17) 20cbb

DISTANCE FROM SITE: 2 miles

MEASURING POINT: GROUND SURFACE

DATE	WATER LEVEL BELOW MEASURING POINT (FEET)
1/11/81	77.67
1/12/81	77.55
1/13/81	77.60
1/14/81	77.57
1/15/81	77.62
1/16/81	77.57
1/17/81	77.60
1/18/81	77.58
1/19/81	77.53

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SELECTED WELL WITHIN 3 MILES
OF BERYL TEST WELL SITE
MONITORED DURING AQUIFER TEST

28 MAY 81 TABLE 6-2

the aquifer test for laboratory analysis. The following is a summary of the field water quality samples.

EC	395-460 mhos/cm
pH	5.5-7.1
Temperature	22-23°C
Alkalinity	95-102 mg/l

The results of laboratory testing for the water quality samples obtained during aquifer testing are listed in Appendix D, Table D-1.

APPENDIX F

WATER RIGHTS

MILFORD WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-28-10)32	Yardley	64.80	259.20
(C-29-11)2	Applegate	30.80	123.20
(C-28-10)30	Baldwin	150.10	600.40
(C-28-10)19	Wiseman	87.10	348.40
(C-29-10)6	Bown	44.19	176.76
(C-29-10)5	Van Tassel	487.00	2540.80
(C-28-10)32	Van Tassel	148.20	
(C-28-10)28	Wisemann	280.00	1120.00
(C-29-11)11	Cook Brothers	165.18	660.72
(C-29-11)13	Nebeker	546.60	2186.40
(C-30-11)4	Rosemary	160.00	640.00
(C-28-10)29	So. Milford Ranches	28.51	114.04
(C-28-10)29	Smith	27.00	108.00
(C-28-10)31	Lund	76.50	306.00
(C-28-10)31	Gillins	74.90	299.60
(C-28-10)18	Goodwin	63.70	254.80
(C-28-10)17	Goodwin	108.15	432.60
(C-29-11)12	Green Diamond	623.20	2492.80
(C-29-11)1	Green Diamond	233.20	932.80
(C-29-11)25	Green Diamond	234.10	936.40
(C-28-10)30	Harris	113.10	452.40
(C-29-11)27	Marshall	576.20	2304.80
(C-29-10)9	Marshall	44.50	178.00

MILFORD WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-29-11)28	Jeppson	154.02	616.08
(C-28-10)20	Mayer	155.00	620.00
(C-28-10)31	Cline	55.64	222.56
(C-28-10)31	Jones	23.03	92.12
(C-29-11)28	Kessler	74.10	296.40
(C-28-10)20	Stott	36.30	145.20
(C-28-10)31	LDS	70.10	280.40
(C-28-11)36	Moore	67.41	269.64
(C-29-10)7	Dalton	108.10	432.40
(C-28-10)29	Lofthouse	37.10	148.40
(C-28-10)19	Price	112.80	451.20
(C-28-10)21,28,29			
(C-28-11)36	Wisemann	763.30	3053.20
(C-29-10)6			
(C-28-10)16,17,21	Mayer	245.90	983.60
(C-28-10)31	Mayer	147.59	590.36
(C-29-11)1	Mayer	25.00	100.00
(C-29-10)6	Mayer	149.65	598.60
(C-28-11)24	Yardley, Mayer	71.16	284.64
(C-28-10)19	Yardley	63.50	254.00
(C-28-10)18	Mayer	43.70	174.80
(C-29-10)7	Mayer	457.00	1828.00
(C-29-10)18	Mayer	280.00	1120.00

MILFORD WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-28-10)19	Yardley	73.90	295.60
(C-28-10)30	Yardley	37.70	150.80
(C-29-11)22	U.S. Steel, Christiansen	74.98	299.92
(C-29-11)23	Biasi	241.52	966.08
(C-29-11)1	F.H.A.	39.00	156.00
(C-28-10)8	Gillins, Meyers	28.00	112.00
(C-28-10)31	Naruse	78.50	314.00
(C-28-11)36	Naruse	96.60	386.40
(C-28-10)32	Paice	196.40	785.60
(C-28-10)17	Pool, Bringhurst	33.61	134.44
(C-29-11)1	Price	62.50	250.00
(C-28-10)31	Puffer	115.30	461.20
(C-29-11)11	Rimpau	203.88	815.52
(C-28-11)36	Pearson	76.10	305.40
(C-28-10)29	Rowley	58.44	233.76
(C-28-11)13	Mayer	12.50	50.00
(C-28-10)31	Thurston	37.30	149.20
(C-28-11)35	Stewart	37.18	148.72
(C-29-11)2	Sherwood	69.80	279.20
(C-29-11)13	Bowler	40.00	160.00
(C-28-11)35	Sly	34.80	139.20
(C-29-11)2	Limb	53.90	215.60

MILFORD WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-29-11)1	Sly, Williams	95.88	383.52
(C-28-11)36	Smith	38.90	155.60
(C-28-11)25	Smith	34.60	138.40
(C-28-11)25	Smith	48.50	194.00
(C-28-11)35	Stewart	39.60	158.40
(C-28-11)36	Stewart	46.30	185.20
(C-28-10)17	Williams	52.70	210.80
(C-28-10)5,8	Sullivan	83.10	332.40
(C-28-11)36	Pearson	106.87	427.48
(C-28-10)19	Tolley	68.10	272.40
(C-29-11)23	Carter	240.00	960.00
(C-28-10)32	Holy Name Province	37.01	148.04
(C-28-11)12	Dalton	160.00	640.00
(C-28-11)23	Moody, Groming	75.00	300.00
(C-28-10)19	Walker	32.40	129.60
(C-29-11)14	Carter	73.52	294.08
(C-29-11)11	Applegate	35.50	142.00
(C-28-10)30	Williams	182.89	731.56
(C-28-10)20,29	Wiseman	408.20	1632.80
(C-28-10)19	Roberts	37.40	149.60
(C-28-10)29	Yardley	113.30	453.20
(C-28-10)32	Yardley	92.95	371.80
(C-29-10)16	Parkinson	80.00	320.00

MILFORD WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-28-11)12,13	Mayer	219.83	879.32
(C-28-10)5,8	Sullivan	760.00	3040.00
(C-27-10)31	Sullivan	116.90	467.60
(C-30-10)19	Craw	157.90	631.60
(C-28-10)20	Aztec	39.00	156.00
(C-29-10)17	Pearson	686.90	2747.60
(C-29-10)8	Pearson	417.60	1670.40
(C-28-10)19	Rollins	7.30	29.20
(C-28-11)35	Mayer	5.00	20.00
(C-28-11)36	Pearson	70.00	280.00
		TOTAL	55,498.96

Source:

Milford District Water Commissioner, 1979.

BERYL WATER RIGHTS

GROUNDWATER

Location		Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-37-16)	6	Adams	48.55	194.20
(C-37-14)	14	Bowler	33.34	133.36
(C-35-17)	7	Cannon Est.	168.90	675.60
(C-34-17)	32	Cannon Est.	168.90	675.60
(C-35-16)	16	Anderson	166.52	666.08
(C-36-15)	9	Woods	55.00	220.00
(C-34-17)	24	Thomas Ent.	33.70	134.80
(C-34-17)	24	Thomas Ent.	20.00	80.00
(C-35-17)	12	Wilson	345.52	1382.10
(C-36-16)	29,30	Bowler	300.44	1201.76
(C-37-17)	4	Barlow	105.00	420.00
(C-37-17)	4	Jones	6.88	29.50
(C-35-16)	16	Banks	287.50	1150.00
(C-35-16)	28	Thomas Ent.	290.32	1161.28
(C-35-16)	31	Malner	25.00	100.00
(C-35-16)	18	Bosshardt	136.60	546.40
(C-35-16)	9	Bowler	231.23	927.32
(C-37-17)	14	Bowler	30.30	121.20
(C-35-16)	16	Bracken	136.75	547.00
(C-36-16)	30	Bracken	529.75	2119.00
(C-35-17)	25	Gardner	36.88	147.50
(C-35-16)	15	Burgess	250.14	1000.56
(C-33-16)	24	Burns	60.00	240.00

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-37-17) 14	Sanders Ranch	79.10	316.32
(C-37-17) 14	Holt	58.80	235.20
(C-36-16) 13	Christensen Bros.	200.00	800.00
(C-36-16) 21	Terry	145.00	580.00
(C-36-16) 5	Holt Farms Inc.	617.88	2471.49
(C-33-16) 30	Mackelprang	144.70	578.80
(C-35-16) 29	Hughes Bro. Inc.	160.00	640.00
(C-35-16) 29	Saylin	69.00	276.00
(C-35-16) 29	Bayles	200.98	803.92
(C-36-16) 29	Staheli Farms	334.00	1336.16
(C-36-16) 29	Gardner	221.80	887.20
(C-37-16) 4	Gardner	10.35	41.40
(C-36-16) 20	Gardner	152.00	608.00
(C-36-16) 20	Bowler	144.05	576.20
(C-36-17) 25	LDS Church	70.00	280.00
(C-36-16) 6	Escalante Farms	920.00	3680.00
(C-36-16) 8, 17	Farnsworth	463.05	1852.20
(C-35-16) 32	Day	186.60	746.40
(C-36-16) 31	Tait	157.05	628.20
(C-32-13) 9	Baldwin & Fraski	106.20	424.80
(C-35-16) 31	Gardner	199.80	799.20
(C-35-15) 28	Hulet	267.60	1070.40

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-36-15) 4	U.S. Steel	202.30	809.20
(C-35-15) 16	Hulet	160.00	640.00
(C-36-16) 8	Randall Farms	304.90	1219.60
(C-35-16) 3	Rodman	60.00	240.00
(C-36-16) 32	Sanders Ranch	141.50	566.00
(C-36-16) 10	Gentry	230.20	930.80
(C-35-16) 22	Thomas Ent.	120.00	460.00
(C-35-16) 23	Graff	98.00	392.00
(C-35-15) 2, 3, 10, 11	Moyle	618.90	2475.60
(C-35-16) 29	Harker Farms	150.90	603.60
(C-35-15) 10	Jones	159.86	639.43
(C-36-16) 4	Holt	202.32	809.28
(C-36-16) 4	Holt	79.97	319.88
(C-36-16) 18, 17, 7	Holt	330.81	1323.34
(C-37-17) 4	Holt	39.90	159.60
(C-34-16) 28	Horsley. D	94.80	379.30
(C-36-16) 33, 37	Bracken Farms	407.80	1631.20
(C-35-16) 17	Hunt	39.44	151.96
(C-34-16) 31	Woods	314.30	1259.00
(C-35-16) 6	Saylin	69.00	276.00
(C-36-16) 5	Hunt	129.75	519.00

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-37-16) 6	Jones & Adams	73.32	293.23
(C-36-16) 15, 19, 20, 21	Jones & Sons	899.10	3596.40
(C-35-17) 4	Bowler	70.40	281.60
(C-33-16) 30 (C-33-17) 25	Larson	160.30	641.20
(C-35-16) 3, 4, 9, 21, 22	Laub	447.04	1788.16
(C-35-16) 21, 22	Love	272.00	1088.00
(C-36-15) 4	Taylor	158.00	552.00
(C-36-16) 5	Wilson	70.50	282.00
(C-35-17) 12	Gardner	60.00	240.00
(C-35-16) 14	Mc Garry	451.87	1807.48
(C-35-17) 36	Brown	116.00	464.00
(C-35-16) 30, 31	Thomas, Ent.	134.00	540.14
(C-35-16) 21	A. Moyle Farms	241.50	966.00
(C-35-16) 7, 13 (C-35-17) 23	Moyle	363.35	1453.40
(C-35-16) 6	Buhl	192.10	768.40
(C-35-16) 16	Nielsen	150.00	600.00
(C-35-17) 13	Christensen Bros.	130.00	520.00
(C-35-16) 27, 28, 32	Pedersen	717.23	2868.92

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-36-15) 7, 18 (C-36-16) 3, 11, 12	Bekins Bar. U.	1564.30	6257.20
(C-37-17) 11, 12	Pickering	64.50	258.00
(C-35-16) 21	Piper	71.80	287.20
(C-35-17) 14	Huntsman	194.00	776.00
(C-36-16) 17	Humphries	149.60	598.40
(C-36-16) 31	Randall	455.66	1822.64
(C-37-17) 1, 12	Randall	203.74	814.96
(C-35-17) 1	Reber	228.80	915.20
(C-35-17) 16	Brown	548.80	1395.20
(C-34-15) 28	Reber	384.50	1538.00
(C-33-16) 23	Wood	217.55	870.20
(C-35-15) 28	Hulet	120.00	480.00
(C-35-15) 22	Clifton	100.00	400.00
(C-35-16) 17	Lilly	86.15	344.60
(C-35-16) 20	Lilly	126.20	504.08
(C-35-16) 17	Lilly	55.00	220.00
(C-34-17) 36	Biasi	76.30	305.20
(C-36-16) 9	Berry	177.80	711.20
(C-36-16) 4	Sevy	145.90	583.60
(C-36-16) 5	Harker Farms Inc.	238.80	955.20
(C-35-16) 22	Bowler	312.49	1249.96

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-34-16) 30	Shelley	23.25	93.00
(C-34-16) 30	Hughes Bros. Inc.	100.00	400.00
(C-35-17) 21	Kazalland Inc.	121.80	487.20
(C-35-16) 29	Smith	153.07	612.00
(C-35-16) 31	Staheli	150.35	601.60
(C-36-16) 30	Randall Farms	148.64	594.60
(C-36-16) 9	Mathis	156.70	626.80
(C-37-17) 15	Randall	22.10	88.34
(C-35-16) 33	Twitchell	198.19	796.76
(C-35-16) 31 (C-35-17) 36	Whitelaw	259.10	1036.40
(C-37-17) 11	Sagers	43.90	175.60
(C-35-16) 16	Woods	155.60	622.40
(C-36-15) 8, 17	Tullis	99.70	398.00
(C-36-16) 16	Gardner	145.05	580.20
(C-36-16) 16	Gardner	187.55	750.20
(C-36-16) 16	Gardner	152.80	611.20
(C-36-16) 28	Holt	6.11	24.44
(C-35-17) 22	Casados	45.70	182.80
(C-37-17) 9	Twitchell	23.89	95.56
(C-36-16) 20	Twitchell	149.80	599.20
(C-36-15) 8	Hart Bros.	349.60	1398.40

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-36-16) 27	Holt	76.10	314.40
(C-35-16) 31	Milne	40.15	160.60
(C-35-17) 4	Williams	18.00	72.00
(C-36-15) 9	Hart	110.00	440.00
(C-34-16) 31	Dobbs	8.81	35.30
(C-34-19) 2	Flinspach	21.30	85.24
(C-36-16) 9	Holt	386.40	1545.60
(C-35-17) 12	Price	10.16	40.63
	Lamb	50.00	200.00
(C-37-14)	Sanders Livestock	109.62	438.48
(C-36-15) 9	Buhl	150.00	600.00
(C-33-14) 6	Security Title Co.	79.25	317.00
(C-34-16) 7	Schow	20.00	80.00
(C-34-16) 7	Zeller	24.44	97.76
(C-34-16) 18	Aye	40.00	160.00
(C-33-15) 31	Paul	66.7	266.80
(C-36-16) 3	Pacific Western Est	47.90	190.60
(C-36-16) 4	Thomas Ent.	60.00	240.00
(C-37-17) 14	Town of Enterprise		620.51
(C-31-13) 1	Stephenson	15.00	60.00
(C-31-13) 1	Minor	19.17	76.[illegible]8

BERYL WATER RIGHTS

GROUNDWATER

Location	Name of Owner	Decreed Water Right (Acres)	Water Rights (Ac-ft)
(C-31-13) 27	Couch	8.39	33.56
(C-35-13) 33	Escalante Valley Housing		40.00
(C-35-12) 18	Int. Develop.	40.00	160.00
(C-35-12) 18	Utah Intl.	2.56	10.26
(C-36-16) 32	Gardner	66.25	265.00
(C-36-16) 32	Terry	20.00	80.00
(C-36-16) 32	Graff	10.00	40.00
(C-36-15) 9	Hulet	80.00	320.00
(C-37-16) 18	Shirtliff	14.83	59.33
(C-37-16) 7	Belmont	11.50	46.00
(C-35-16) 28	Gardner	19.46	277.84
(C-36-16) 16	Gardner	7.50	30.00
	Farwest Sub.		580.00
(C-36-16) 1	New Castle Water Co.		50.00
	Holt Farms	5.00	20.00
	Paterson		30.00
	Luck		30.00
		TOTAL	108,236.01

Source:

Beryl-Enterprise District Water Commissioner, 1979.

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